Maricopa County Air Pollution Hearing Board

Pre-Hearing Disclosure

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Case No. MCAPHB2016-01

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New Source Review

<u>Comment #8</u>: Department failed to consider new source review issues and whether the units should have been included with an earlier permit.

<u>CLEAN AIR ACT</u>

The Tonopah Egg Ranch emits air pollutants. The Clean Air Act (CAA) defines air pollutant as [§302(g)]:

> *"The term "air pollutant" means any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive (including source material, special nuclear material, and byproduct material) substanceor matter which is emitted into or otherwise enters the ambient air. Such term includes any precursors to the formation of any air pollutant, to the extent the Administrator has identified such precursor or precursors for the particular purpose for which t he term "air pollutant" is used."*

The Tonopah Egg Ranch emits pollutants on the National Ambient Air Quality Standards (NAAQS) list and other air contaminants (MCAQD SIP Rule 2 § 7). Air contaminants generated and released by poultry operations are (Casey, Kenneth D., et. al):

- Particulate matter
- Volatile Organic Compounds (VOC)
- Ammonia
- Hydrogen sulfide
- Methane
- Nitrous Oxide
- Carbon Dioxide
- Odor
- Microbiological (bacteria, fungi, and endotoxins)
- Feathers

The specific NAAQS air pollutants of concern from poultry operations are:

- VOCs and nitrous oxide as precursors to ozone
- Particulate Matter ($PM_{2.5}$ and PM_{10})
- $PM_{2.5}$ precursors : ammonia, VOC, SO_2, NO_x)

The Tonopah Egg Ranch was constructed after the regulations were published, so it meets the definition of a new source (CAA §112(a)(4)):

> *"The term "new source" means any stationary source, the construction or modification of which is commenced after the publication of regulations (or, if earlier, proposed regulations) prescribing a standard of performance under this section which will be applicable to such source."*

The definition of a stationary source as defined by the CAA [§111(a)] is:

> *The term "stationary source" means any building, structure, facility, or installation which emits or may emit any air pollutant. Nothing in subchapter II of this chapter relating to nonroad engines shall be construed to apply to stationary internal combustion engines.*

"Stationary Source" is also defined in §302(z):

> *"The term "stationary source" means generally any source of an air pollutant except those emissions resulting directly from an internal combustion engine for transportation purposes or from a nonroad engine or nonroad vehicle as defined in section 216."*

The Tonopah Egg Ranch meets the definition of a stationary source because the hens are housed in a building and the poultry activities, which generate air pollutants, are discharged out of an opening in the building.

The Clean Air Act defines "major stationary source" [§ 302(j)] as:

> *"Except as otherwise expressly provided, the terms "major stationary source" and "major emitting facility" mean any stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant (including any major emitting facility or source of fugitive emissions of any such pollutant, as determined by rule by the Administrator)."*

According to 40 C.F.R. § 51.165 (a)(1)(ix), fugitive emissions are "those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening." In the case at hand, the egg laying facility consists of enclosed barns with ventilation systems (i.e., vents), so the emissions cannot be considered "fugitive."

In Title V of the Clean Air Act, a major source is defined as

> *"The term "major source" means any stationary source (or any group of stationary sources located within a contiguous area and under common control) that is either of the following:*
>
> *(A) A major source as defined in section 112.*
>
> *(B) A major stationary source as defined in section 302 or part D of title I."*

An Air Quality Analysis has not been performed on the Tonopah Egg Ranch emissions, which is a deficiency in determining if the facility is a major stationary source.

If the Tonopah Egg Ranch emissions are below the major stationary source threshold, then it is a small source as defined by the Clean Air Act [§ 302(x)]:

"The term "small source" means a source that emits less than 100 tons of regulated pollutants per year, or any class of persons that the Administrator determines, through regulation, generally lack technical ability or knowledge regarding control of air pollution."

Even as a small source, the henhouses are a stationary source and must go through the permitting process.

The Clean Air Act does not provide agriculture any exemptions to permitting (Federal Register, Vol. 70).

Given this information, a better argument that a Concentrated Animal Feeding Operation (CAFO) is a stationary source is found in the Legal Framework section of Civil Action No. 15-cv-0141 (HSUS v. EPA). The lawsuit was filed against the EPA by The Humane Society, Association of Irritated Residents, Environmental Integrity Project, Friends of the Earth, and Sierra Club.

LAWSUITS AND AGENCY ACTIONS

Additionally, the EPA has long considered a CAFO to be a stationary source, as demonstrated by lawsuits and agency actions.

A CAFO, Premium Standard Farms, Inc. entered into a Consent Decree (Citizens Legal Environmental Action Network v. Continental Grain Company). On April 26, 2000, the United States issued a Notice of Violation (NOV) to Premium Standard Farms alleging that Premium Standard Farms had not applied for required preconstruction permits or operating permits, in violation of the Missouri State Implementation Plan (SIP) and the Clean Air Act. As part of the Consent Decree (Appendix F), Premium Standard Farms had to conduct air emission measurements on lagoons and production buildings. Appendix H of the Consent Decree required an Air Emissions Monitoring Completion Report with a determination if the CAFO was a minor or major source of air pollution.

In 2002 The EPA withdrew California's agriculture permitting exemption on the basis that it "unduly restrict[ed]" enforcement of the CAA and said that CAFOs "plainly fit the definition of stationary source" under the CAA. (Federal Register Vol. 67) Here are some notable statements by the EPA:

- By our action today, EPA intends to issue permits to state-exempt major stationary agricultural sources under the provisions of part 71. (Comment 2; Response; p. 63553)

- EPA agrees that agriculture is a unique industry and that the application of title V for this industry poses some special challenges. Section 502(a) of the Clean Air Act (CAA or the Act), however, requires that a title V permitting program apply to every major source; it does not provide for an exemption

based on the unique characteristics of the agricultural industry. (Comment 6; Response; pp. 63554-63555)

- EPA has conferred, and continues to confer, with USDA in an effort to develop a reasonable approach of implementing the title V program for major agricultural sources. We will continue to work with USDA on a host of issues related to the identification of major agricultural sources and the appropriate permitting of these sources under title V of the CAA. (Comment 6; Response; p. 63556)

- As noted above, section 502(a) of the Clean Air Act specifically prohibits EPA from exempting major sources of air pollution from title V. (Comment 7; Response; p. 63555)

- Thus, while we may agree that data regarding emission factors could be better in three years, implementation of the title V permitting program for major stationary agricultural sources must move ahead based on the best data available at this time. (Comment 7; Response; p. 63555)

- The appropriate portion of the statute to consult for title V purposes is section 302(z) of the Act, which defines the term ''stationary source'' as ''generally any source of an air pollutant except those emissions resulting directly from an internal combustion engine for transportation purposes or from a nonroad engine or nonroad vehicle.'' Section 71.2 defines ''stationary source'' as ''any building, structure, facility, or installation that emits or may emit any regulated air pollutant or any pollutant listed under section 112(b) of the Act.'' CAFOs plainly fit the definition of stationary source under section 302(z) of the CAA and the title V regulations. (See Comment 11; Response; pp. 63556-63557)

- EPA also disagrees with the commenter's assertion that ''a CAFO itself emits nothing.'' CAFOs directly emit a variety of air pollutants from waste storage lagoons, barns, and other buildings, structures, and facilities where animals are confined. (See Comment 11; Response; p. 63557)

In 2004, Buckeye Egg Farms (United States v. Buckeye Egg Farm L.P. et al.) , the largest egg producer in Ohio, agreed to a Clean Air Act settlement after failing to comply with a regulatory order and failing to obtain required permits for PM emissions. Preliminary air emission tests required by EPA indicated that air emissions of particulate matter (PM) from Buckeye's facilities are significant—over 550 tons/year (tpy) from the Croton facility, over 700 tpy from the Marseilles facility, and over 600 tpy from the Mt. Victory facility. Under the Consent Decree, Defendants had to pay an $880,598 civil penalty and spend over $1.6 million to install and test a system to capture particulate matter in each of its barns at the Marseilles and Mt. Victory facilities before it is vented to the outside (EPA News

Release).

The associated Notice of Violation and Finding of Violation (United States v. Buckeye Egg Farm L.P. et al.) issued to Buckeye Egg Farms, L.P. listed the following violations:

1. Constructed and/or modified, and continues to operate a major stationary source without the appropriate prevention of significant deterioration (PSD) permit at the Croton facility,
2. Failed to go through PSD review at the Croton facility,
3. Failed to employ best available control technology (BACT) at the Croton facility,
4. Failed to apply for Title V permits at the Croton and Marseilles facilities, and
5. Is operating major sources without Title V permits at the Croton and Marseilles facilities.

In another lawsuit, involving a dairy beginning construction without obtaining a clean air construction permit (Association of Irritated Residents v. Fred Schakel Dairy), the court made the following statements on December 2, 2005:

- "Schakel has not directed the Court to an exemption within the CAA that would apply to the Dairy because it is an agricultural source of air pollution, and the Court is notaware of such an exemption. Also, as the above references indicate, it is the EPA's position that the CAA does not exempt major stationary agriculture sources. See 69 Fed.Reg. 27837, 27838 (May 17, 2004); 68 FR 37746, 37747 (June 25, 2003); 68 Fed.Reg. 7327, 7328 (February 13, 2003)). Thus, it is unclear how agriculture sources that are also major stationary sources, as the Dairy is alleged to be, could be considered outside the CAA's NSR permitting requirements." (See page 17; Lines 17-23)."

- "With respect to permitting requirements, the EPA does not recognize an exemption for agriculture sources for purposes of NSR permits and Schakel has not identified such an exemption within the CAA." (See p. 26; Lines 9-11.)"

In 2006 Granta Nakayama, Assistant Administrator of the EPA, sent a letter (Nakayama) to the Environmental Appeals Board addressing Consent Agreements and Final Orders for twenty animal feeding operations (AFOs). The Clean Air Act violation read: "The proposed Agreements allege potential violations of CAA Title I Parts C (Prevention of Significant Deterioration of Air Quality) and D (Plan Requirements for Nonattainment Areas), and Title V, as well as the federally-enforceable state implementation plan (SIP) requirements. These CAA provisions and SIP requirements generally require facilities to apply for permits from the relevant permitting authority if their emission of any regulated pollutant, including VOCs, hydrogen sulfide, and particulate matter, exceed regulatory thresholds or are identified as contributing to an area's nonattainment status."

In 2009 Pamela Blakely, Chief of Air Permits Section for EPA Region 5, sent a letter (Blakely) to Michael E. Hopkins, Permitting Assistant Chief of Ohio Environmental

Protection Agency, informing him that draft permits for the Hi-Q Egg Products draft permits did not address Clean Air Act requirements. The proposed facility consisted of 15 layer barns designed to accommodate six million birds. Ms. Hopkins went on to say: "Based on our experience with a similarly sized egg laying facility in Ohio, Buckeye Egg Farm, and data obtained through actual measurements of particulate emissions from Buckeye Egg Farm, Hi-Q's proposed facility would appear to be a major source of particulate emissions. As a major source, Hi-Q would need to go through the appropriate permitting processes under Ohio's State Implementation Plan (SIP) and federally approved Title V program. A detailed CAA preconstruction permit application would facilitate this effort."

The Tonopah Egg Ranch emits air pollutants including some NAAQS criteria air pollutants. The Tonopah Egg Ranch has numerous buildings (hen houses) that emit air pollutants at the facility and it was constructed after the publication of CAA regulations, making it a stationary source and a new source by definition. As previously cited, the Clean Air Act does not exempt stationary sources that utilize agriculture related process. Therefore, permitting - New Source Review must be conducted according to the CAA and implemented through the State Implementation Plan [§110(a)(2)(C)] to properly permit the Tonopah Egg Ranch. Maricopa County has a State Implementation Plan (MC SIP). Additionally owner or operators must obtain a permit per CAA §502(b).

It needs to be noted that according to EPA's 2005 CAFO Air Compliance Consent Agreement and Final Order (Federal Register, Vol. 70), it is clear that EPA's position is and has been since 2005 that the CAA applies to CAFO emissions if they exceed certain thresholds, particularly those emissions coming from buildings or structures. It should be noted that CAFOs that entered into the Consent Agreement were essentially exempt from enforcement if they violated the CAA, but NOT exempt from permitting or new source review. And obviously, those not participating have been and continue to be subject to CAA new source review and permitting, and enforcement. In any case, the Hickman operation was not in existence when the Consent Agreement was adopted and therefore there is no way the Tonopah site could have been involved, since it has just been built recently.

STATE IMPLEMENTATION PLAN, MARICOPA COUNTY

Maricopa County must have a permitting program (CAA §110(a)(2)(C) and §502) in order for the EPA to approve a State Implementation Plan (SIP). The permitting program is the process needed to implement the new source review requirements. In Maricopa County's approved SIP (MC SIP), the permitting program is found in Regulation 2 – Permits.

Rule #2 has the following definition of Stationary Source: "means a structure, building, facility, equipment, installation, or operation (or combination thereof) which is located on one or more contiguous or adjacent properties and which is owned or operated by the same person (or by persons under common control) and

which emits or may emit an air pollutant." There is no exemption for hen houses, which are stationary sources.

Rule #20 Permits Required of the SIP requires a person to acquire an Installation Permit for "erecting, installing, replacing or making major alteration to any machine, equipment, incinerator, device or other article which may cause or contribute to air pollution… ." There is no exemption for hen houses, which are stationary sources.

Rule #21 Procedures for Obtaining an Installation Permit requires " a list of the type and amount of raw materials, location of all emission points, and type and quantity of pollutant emissions along with a description and accounting of the method used to calculate emissions. There are also installation permit requirements for major sources located in nonattainment, attainment, or unclassified areas. There is no exemption for hen houses, which are stationary sources.

Rule #23 Permit Classes states: "WHEREAS Section 36-779.01 Arizona Revised Statutes states that any person erecting, installing, replacing or making major alteration to any machine, equipment, incinerator, device or other article which may cause or contribute to air pollution … shall first obtain an Installation Permit." There is a miscellaneous class which reads: "This class includes any machine, device, equipment or other article or process or activity which is not included in the preceding schedules and which requires a permit under the authority of these Rules and Regulations or the Arizona Revised Statutes. There is no exemption for hen houses, which are stationary sources.

Rule #220 Permits to Operate provides the following definition for a Major Source:

> *A Major Source (Major Stationary Source) – Any of the following sources of air pollution:*
>
> 1. *Any stationary source located in a nonattainment area which emits, or has a potential emission rate of 100 tons per year or more of an air pollutant subject to regulation under the Act; or*
> 2. *Any stationary source located in an attainment or unclassified area which emits, or has a potential emissions rate of 100 tons per year of any pollutant subject to regulation under the Act if the source is classified as a categorical source, or 250 tons per year or more of any pollutant subject to regulation under the Act if the source is not classified as a categorical source; or*
> 3. *Any change to a minor source which would increase the emissions to the qualifying levels specified under Sections 202.1 and 2022 of this rule.*
> 4. *A major stationary source that is major for volatile organic compounds shall be considered major for ozone.*

The Standard for Permit Requirements (§301) in Rule #220 states: "Except as provided in this rule or Rule 100 of these Regulations, no person shall operate any source without first obtaining a Permit to Operate from the Control Officer. …"

The Standard for Granting Permits (§302) in Rule #220 states: " No Permit to Operate will be issued unless: 1. The applicant demonstrates that the source will be in compliance with all applicable provisions of these Regulations… ."

The application procedures require the applicant to include "the nature and amount of emissions" (§401.3).

Rule #220 has no exemption for hen houses, which are stationary sources.

Rule #310.01 Fugitive Dust From Non-Traditional Sources of Fugitive Dust discusses livestock activities and provides example of the source of fugitive emissions: corrals, pens and arenas. It does not include manure piles, barns, henhouses, structures, buildings, etc. It is also important to understand that "fugitive dust" is not limited to soils. §213 defines "fugitive dust" as:

> "*The particulate matter not collected by a capture system, that is entrained in the ambient air and is caused from human and/or natural activities, such as, but not limited to, movement of soil, vehicles, equipment, blasting, and wind. For the purpose of this rule, fugitive dust does not include particulate matter emitted directly from the exhaust of motor vehicles and other internal combustion engines, from portable brazing, soldering, or welding equipment, and from piledrivers, and does not include emissions from process and combustion sources that are subject to other rules in Regulation* ***111****(Control of Air Contaminants) of these rules.*"

The Maricopa County SIP does have a permitting program as required by the Clean Air Act and there are no provisions in the SIP that would exempt hen houses (a building emitting air pollutant) from being stationary sources.

REBUTTAL TO MCAQD RESPONSES

In MCAQD responses as to whether a new source review is needed or not, MCAQD did not disagree that the Hickman's Egg Ranch (henhouses) is a stationary source emitting air pollutants. MCAQD justifications for not performing a new source review have not provided regulatory rationale.

MCAQD bases the Departments refusal to conduct a new source review on the following justifications (Krause):

1. The standards for New Source Review are established in Rule 240. The fugitive emissions from the operation do not trigger the major source thresholds included in the rule.
2. Numerous testing events have confirmed that the hydrogen sulfide concentration does not exceed the standard.
3. New Source Review is not triggered with the current equipment and poultry operations.

4. Waiting on EPA to issue regulations and/ or guidance on this issue after the conclusion of the monitoring study.
5. Absence of regulatory framework
6. The decision as to whether to promulgate regulation for air emissions from AFOs remains with EPA. MCAQD will readily follow any rules or regulations issued by EPA.

Rebuttals to MCAQD Arguments are as follows.

<u>MCAQD Justification #1</u>: The fugitive emissions from the operation do not trigger the major source thresholds included in Rule 240.

MCAQD Rule 100 §200.58 defines fugitive emission as:

> *"Any emission which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening."*

40 CFR §70.2 (40 CFR) has the same definition for fugitive emissions.

The Maricopa County SIP (Regulation 1 Rule 2 §59) defines Non-point Source as:

> *""Non-point Source" means a source of air contaminants which lacks identifiable plume or emission point."*

The henhouses at the Tonopah Egg Farm are very large buildings. The Lay Buildings/Manure Storage Barns are approximately 60,000 square feet; with a sidewall height of approximately 36 feet and a roof peak of approximately 46 feet (Huston, K .R,). All of the air pollutants are discharged into the ambient atmosphere through the opening in the east end of the henhouse building (aka Lay Building/Manure Storage Barn). The opening in the east end of the building is the "vent" that allows the ventilation fans discharges and air pollutants to escape from the building. Or it could be considered as an "other functionally equivalent opening" which the air emissions pass through. Therefore, the emissions are not fugitive emissions.

Following the Maricopa County SIP definition of non-point source, the functionally equivalent opening in the henhouse is an "identifiable plume or emission point." Therefore, it cannot be a non-point source, meaning that the emissions are non-fugitive in nature.

Fugitive emissions can be found elsewhere on the property. Examples are plowing of the fields or dust from trucks driving along dirt roads. These are truly fugitive emissions that "could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening."

Premium Standard Farms, Inc. is a pork producer with several farms. Each farm

consists of multiple sites with each site having its own lagoon system and typically 8 barns. NOVs were issued to Premium Standard Farms, Inc. and a Consent Decree followed (Citizens Legal Environmental Action Network v. Continental Grain Company). The emissions were not considered to be fugitive and Premium Standard Farms was ordered to conduct air emission measurements on lagoons and production buildings. Appendix H of the Consent Decree required an Air Emissions Monitoring Completion Report with a determination if the CAFO was a minor or major source of air pollution.

In the EPA action to withdraw, in part, 34 of California's Clean Air Act title V operating permit programs (Federal Register Vol. 67) for not enforcing their Title V operating permit programs for stationary agricultural sources that are major sources of air pollution (including CAFOs), the EPA stated that "Thus, while we may agree that data regarding emission factors could be better in three years, implementation of the title V agricultural sources must move ahead based on the best data available at this time."

An important Comment/Response in this document is:

> *"Comment 11: One commenter argues that CAFOs are indirect sources of emissions, rather than stationary sources, and thus are not subject to title V permitting requirements. The commenter notes that the Clean Air Act defines an indirect source as "a facility, building, structure, installation, real property, road or highway which attracts, or may attract, mobile sources of pollution." Thus, the commenter continues, similar to a highway or a parking lot, a CAFO itself emits nothing; rather, it is the cows that are housed in barns and other structures that create organic emissions, not the facility itself. Furthermore, the commenter argues, the cattle located in a CAFO may be analogized to the automobiles on a highway or in a parking lot; their emissions potentially make the CAFO an indirect source of emissions. Response: EPA disagrees that CAFOs are indirect, as opposed to stationary, sources. The definition of "indirect source" cited by the commenter is located in section 110(a)(5)(C) of the Act and applies only to that paragraph, which addresses State Implementation Plans for indirect source review programs. The appropriate portion of the statute to consult for title V purposes is section 302(z) of the Act, which defines the term "stationary source" as "generally any source of an air pollutant except those emissions resulting directly from an internal combustion engine for transportation purposes or from a nonroad engine or nonroad vehicle." Section 71.2 defines "stationary source" as "any building, structure, facility, or installation that emits or may emit any regulated air pollutant or any pollutant listed under section 112(b) of the Act." CAFOs plainly fit the definition of stationary source under section 302(z) of the CAA and the title V regulations. EPA also disagrees*

with the commenter's assertion that "a CAFO itself emits nothing." CAFOs directly emit a variety of air pollutants from waste storage lagoons, barns, and other buildings, structures, and facilities where animals are confined. Moreover, we note that cows are not mobile sources regulated under title II of the Act."

In Comment 12, one commenter argued that the emissions from many operational practices and components of dairies are fugitive emissions and not subject to title V and another argued that emissions from certain CAFO sources (e.g. , waste lagoons, hog barns, and poultry houses) are not fugitive. Regarding fugitive and non-fugitive emission sources at CAFOs, the EPA stated that the "EPA is not making such policy decisions in this rulemaking."

In response to Comment 18, EPA says:

"EPA agrees that dairy, poultry, and swine CAFOs are all sources of criteria pollutant emissions. The NAS' Interim Report on air emissions from animal feeding operations (AFOs) notes that, "substantial emission of nitrogen, sulfur, carbon, particulate matter, and other substances from AFOs do occur." However, as we stated above, emissions from large animal feeding operations (e.g., dairies, poultry operations, swine facilties) are not as well characterized as are those from diesel agricultural engines. While EPA expects that the state of CAFO emission data will improve in the future, the implementation of the title V permitting program for state -exempt major stationary agricultural sources must move ahead based on the best data available at this time. "

While the EPA did not set policy on CAFO fugitive emissions, it is very clear that the EPA considers CAFOs to be stationary sources that must be permitted and go through a New Source Review process.

There was no question about emissions from the Buckeye Egg Farms civil action and NOV (United States v. Buckeye Egg Farm L.P. et al.). The air pollutant emissions were **not** considered "fugitive" and the egg farm was required to install and test pollution controls to cut air emissions of particulate matter and ammonia. In the NOV, the EPA stated that Buckeye Egg Farm was operating major sources without Title V permits at two facilities. The EPA said this in the Federal Register (Federal Register Vol. 69):

"...The claims pertain to emissions from Buckeye's barns of particulate matter and ammonia. Preliminary air emission tests required by EPA indicate that air emissions of particulate matter (PM) from Buckeye's facilities are significant—over 550 tons/year (tpy) from the Croton facility, over 700 tpy from the Marseilles facility, and over 600 tpy from the Mt. Victory facility.
Many scientific studies have linked particulate matter to aggravated asthma, coughing, difficult or painful breathing, chronic bronchitis and decreased lung function, among other ailments (see http://www.epa.gov/air/urbanair/pm/index.html.) Buckeye also reported ammonia emissions of over 800 tpy from its Croton facility, over 375 tpy [[Page 11650]] from the Marseilles facility, and nearly 275 tpy from the Mt. Victory facility. Ammonia is a lung irritant."

In the Schakel lawsuit (Association of Irritated Residents v. Fred Schakel Dairy), Schakel constructed a dairy consisting of eight freestall barns, four manure solid separation lagoons, two liquid manure storage lagoons, corrals with flushed alleys, a milking barn and feed storage facilities. The VOC emissions were **not** considered to be "fugitive". In the *Discussion* section of the Order of the Defendant's Motion to Dismiss, the US District Judge cites:

> *"Schakel's argument that the complaint is insufficient because it fails to allege "that emissions from the cows and the manure take place in the building, structure, facility or installation and somehow connect the ownership or the operation of that to the defendants," is not persuasive. The complaint does allege that emissions from cows and manure take place in the components of the Dairy. See FAC at ¶ 61 ("Enteric emissions of VOC from cows in freestall barns and the milking barn, as well as emissions from freshly excreted urine and feces, are non-fugitive emissions."); FAC at ¶ 62 ("Emissions from decomposing manure in solid separation lagoons and liquid storage lagoons, as well as solid manure composting piles, are non-fugitive emissions."); see also FAC at ¶¶ 51-53 (describing the barns and corral's "flush system" for manure removal); FAC at ¶ 55 (describing use of manure storage lagoons). ... This ground for dismissal is denied. "*

It is apparent that the judge agreed that the CAFO emissions were non-fugitive.

EPA Region 5 in 2009 made it very clear in a letter (Blakely) to the Ohio Environmental Protection Agency that a proposed facility of 15 layer barns were considered a stationary source and as a major source or particulate emissions, needed to go through permitting processes under Ohio's State Implementation Plan (SIP) and federally approved Title V program. In other words, the 15-layer barn facility needed to go through a new source review process.

Although the EPA has not established a policy on fugitive vs. non-fugitive emissions, the agency's action make it very clear that a CAFO is stationary source and must go through a new source review process for permitting. Additionally, there are EPA actions where the agency considered CAFOs to have non-fugitive emissions. Those specifics are Consent Decree and lawsuit for 8 barns at the Premium Standard Farms; civil action and NOV for henhouses at the Buckeye Egg Farms; and 15 layer barns at Hi-Q Egg Products in West Mansfield, Ohio (Citizens Legal Environmental Action Network v. Continental Grain Company).

Legally action has also supported that CAFOs do not have fugitive emissions. Specifically, the Schakel lawsuit involving dairy barns, lagoons, corrals, and feed storage (Association of Irritated Residents v. Fred Schakel Dairy).

Another way to look at fugitive emissions vs. non-fugitive emissions is the practical application. If a commercial bread bakery was built in a three-sided building for emissions to escape, would MCAQD grant an exemption to the MCAQD Rule 343 because the emissions were fugitive? Or what if a gin was constructed inside of a 3-

sided building and exhausted through the opening, would it be exempt from MCAQD Rule 319? No, the buildings could have been built in a four-sided configuration and appropriately regulated. The same is true with the henhouse. It should not be granted an exception for the configuration of the building. The opening no matter how large it is, is still a "vent" or at the very least a "functionally equivalent opening". The building could have been constructed differently to have a series of smaller vents as with other henhouses, so there wasn't circumvention (MCAQD Rule 100 §104) of normal industry practice. The Tonopah Egg Ranch henhouses were constructed to dry manure with large ventilation fans, which makes it even more non-fugitive, and should be regulated as such. Again, configuration of a building or structure is not justification for an exemption the air pollution that is generated inside of it.

<u>MCAQD Justification #2</u>: Numerous testing events have confirmed that the hydrogen sulfide concentration does not exceed the standard.

Hydrogen sulfide is not listed on the National Ambient Air Quality Standard list, so it is not relevant to the new source review process. However, the permit has an Odor Control Standard and testing for hydrogen sulfide does not confirm that the standard is met or not because hydrogen sulfide is only one of many odorous air contaminants and noxious chemicals that are emitted from a poultry operation. Also, proper emissions testing must be done at the source, not the property line. See the Clean Air Act §112(d)(2).

This MCAQD response does not provide justification for failure to perform a new source review. The County has failed to justify why it has not addressed new source review for the other pollutants being emitted from the operation that do exceed permitting standards, such as:

- VOCs and nitrous oxide as precursors to ozone
- Particulate Matter ($PM_{2.5}$ and PM_{10})
- $PM_{2.5}$ precursors : ammonia, VOC, SO_2, NO_x)

<u>MCAQD Justification #3</u>: New Source Review is not triggered with the current equipment and poultry operations.

MCAQD makes this statement with no regulation justification or analysis. The New Source Review process is triggered with the current equipment and poultry operations, in particular the poultry operations. The poultry operation is a stationary source by definition. (See CAA [§111(a)] and MC SIP Rule #2.) Once a stationary source is identified it must be determined if it is a major source or not. (See CAA § 165, § 173 {nonattainment area}, § 502, and § 503). The New Source Review process then follows through Maricopa County's State Implementation Plan. Maricopa County was delegated the authority in 1993 to implement and enforce the Federal NSR Program.

The applicable Maricopa County SIP rules are:

Regulation 1 – General Provisions
- Rule 1 Emissions Regulated: Policy; Legal Authority
- Rule 2 Definitions
- Rule 3 Air Pollution Prohibited

Regulation 2 – Permits
- Rule 020 Permits Required (A, C, &D)
- Rule 021 Procedures for Obtaining an Installation Permit
- Rule 023 Permit Classes
- Rule 027 Performance Tests
- Rule 220 Permits to Operate

Regulation 5 – Air Quality Standards and Area Classification
- Rule 510 Air Quality Standards

The rules that make up MCAQD New Source Review Program are:

- Rule 100: General Provisions and Definitions
- Rule 200: Permit Requirements
- Rule 201: Emissions Caps
- Rule 202: Plantwide Applicability Limits (PALs)
- Rule 210: Title V Permit Provisions
- Rule 220: Non-Title V Permit Provisions
- Rule 230: General Permits
- Rule 240: Permit Requirements for New Major Sources and Major Modifications to Existing Major Sources
- Rule 241: Permits for New Sources and Modifications to Existing Sources
- Rule 500: Attainment Area Classification
- Rule 510: Air Quality Standards
- Appendix B: Standard Permit Application Form and Filing Instructions
- Appendix D: List of Insignificant Activities
- Appendix G: Incorporated Materials

By applying MCAQD rule definitions, permit application requirements, and the permitting process will lead to a proper permit. The Tonopah Egg Ranch is a source (Rule 100 § 200.116), new source (Rule 100 § 200.76), and stationary source (Rule 100 § 200.120) that discharges (Rule 100 §200.40) quantifiable (Rule 100 § 200.99) air contaminants (Rule 100 § 200.9), which include regulated air pollutants (Rule 100 § 200.104), into the ambient air (Rule 100 § 200.13), causing air pollution (Rule 100 § 200.10). The pollutants (Rule 100 § 200.93) are fugitive (Rule 100 § 200.58) and non-fugitive (MC SIP Rule 2 §59, Non-Point Source). Fugitive emissions at the facility (Rule 100 § 200.51) originate from roads, parking lots, and crop fields. Non-fugitive emissions originate from poultry (lay buildings) and manure piles (manure storage barns) inside of structures/buildings (Rule 100 § 200.27; SIC Code 2015 for Poultry Slaughtering and Processing under Division D: Manufacturing, Major Group 20: Food And Kindred Products, SIC 5144 for Poultry and Poultry Products under

Division F: Wholesale Trade, Major Group 51: Wholesale Trade-non-durable Goods, as well as SIC 2873 for Nitrogenous Fertilizers or 2875 for Fertilizers, Mixing Only under Manufacturing Major Group 28: Chemicals and Allied Products), emergency diesel generators; grain unloading and transfer; manure hauling, process wastewater surface impoundment ponds, boilers, propane tanks, and a diesel storage tank.

The facility (Rule 100 § 200.51) has to meet the following standards:

> **SECTION 300 – STANDARDS**
> **301 AIR POLLUTION PROHIBITED**: No person shall discharge from any source whatever into the atmosphere regulated air pollutants which exceed in quantity or concentration that specified and allowed in these rules, the AAC or ARS, or which cause damage to property, or unreasonably interfere with the comfortable enjoyment of life or property of a substantial part of a community, or obscure visibility, or which in any way degrade the quality of the ambient air below the standards established by the Board Of Supervisors or the Director.

At the time of the Tonopah Egg Ranch minor permit modification, MCAQD Rule 200 § 309 required that: "The application shall contain all the information necessary to enable the Control Officer to make the determination to grant or deny a permit or permit revision, which shall contain such terms and conditions as the Control Officer deems necessary to assure a source's compliance with the requirements of these rules. The issuance of any permit or permit revision shall not relieve the owner or operator from compliance with any Federal laws, Arizona laws, or these rules, nor does any other law, regulation or permit relieve the owner or operator from obtaining a permit or permit revision required under these rules."

MCAQD Rule 200 § 309 has been revised to read: "All permit applications shall be filed in the manner and form prescribed by the Control Officer. The application shall contain all the information necessary to enable the Control Officer to make the determination to grant or to deny a permit or permit revision, which shall contain such terms and conditions as the Control Officer deems necessary to assure a source's compliance with the requirements of these rules. The issuance of any permit or permit revision shall not relieve the owner or operator from compliance with any federal laws, Arizona laws, or these rules, nor does any other law, regulation or permit relieve the owner or operator from obtaining a permit or permit revision required under these rules."

In either case, to accomplish this task, the owner/operator of a Title V facility must complete Maricopa County rule Appendix B, Standard Permit Application Form and Filing Instructions. The instructions start with: "No application shall be considered complete until the Control Officer has determined that all information required by this application form and the applicable statutes and regulations has been submitted."

Step #7 of the information required, states:

"Emissions related information:

1. *The source shall submit the potential emissions of regulated air pollutants as defined in Rule 100-General Provisions And Definitions of these rules for all emission sources. Emissions shall be expressed in pounds per hour, tons per year, and such other terms as may be requested. Emissions shall be submitted using the standard "Emission Sources" portion of the "Standard Permit Application Form". Emissions information shall include fugitive emissions in the same manner as stack emissions, regardless of whether the source category in question is included in the list of sources contained in the definition of major source in Rule 100 - General Provisions And Definitions of these rules.*
2. *The source shall identify and describe all points of emissions and to submit additional information related to the emissions of regulated air pollutants sufficient to verify which requirements are applicable to the source and sufficient to determine any fees pursuant to Rule 280-Fees of these rules."*

This is an important requirement. It is necessary to include all sources and emissions, fugitive and non-fugitive, from the facility so the proper permit can be issued to the facility. The form for Emission Sources requires the listing of "Stack Sources" (Emission Point) and "Nonpoint Sources." Once the applicant quantifies and classifies the emissions, the applicant can then complete Step #10 for a Non-Title V Permit or Step #18 for a new major source. Once <u>all</u> sources and emissions at the facility are known and listed on the application, it will determine the next steps for the proper permit.

MCAQD Rule 200 § 302 or §303 can then be implemented to establish the proper permit, Title V (Rule 100 §200.124) or Non-Title V. Title V Permit provisions and requirements are further defined in MCAQD Rule 200 § 302 with Title V Permit provisions specified in Rule 210 and Rule 240 for a federal major new source review. Non-Title V Permit provisions requirements are further defined in MCAQD Rule 220.

If all of the emissions were quantified as required by the permit application, the Tonopah Egg Ranch would be a Title V permitted facility. The engineering calculations in the *Tonopah Plant Nutrient Management Plan* show that the facility will have a total number of 14 lay buildings (henhouses) with a total number of 307,200 chickens in each lay building. This is the first phase of construction. Based on the Buckeye Egg Farm lawsuit, Tonopah Egg Ranch PM_{10} emissions would be 473.6 tpy actual and 1,325.5 potential to emit, which are above the major source threshold of 100 tpy (MC SIP definition for a Major Source, MCAQD Rule 100 §200.65, MCAQD Rule 240, 40 CFR 52.21(b)(1)(i)). Based on the National Air Emissions Monitoring Study, VOC emissions would be 73.5 tpy actual and 205.8 tpy potential to emit. With final build out of this phase (construction continues), the major stationary source threshold of 100 tpy will be exceeded.

PM_{10} calculation for Tonopah Egg Ranch - Actual
(based on EPA News Release dated 2/23/2004 for Buckeye Egg Farm)

$$\frac{\text{>100 barns}}{\text{12,000,000 chickens}} \times \frac{\text{(550 tpy+700 typ +600 tpy)}}{\text{>100 barns}} = 0.000154 \text{ tpy/chicken}$$

$$10 \text{ henhouses} \times \frac{307{,}200 \text{ chicken}}{\text{henhouse}} \times \frac{0.000154 \text{ tpy}}{\text{chicken}} = 473.1 \text{ tpy } PM_{10}$$

PM_{10} calculation for Tonopah Egg Ranch – Potential to Emit
(based on EPA News Release dated 2/23/2004 for Buckeye Egg Farm)

$$14 \text{ henhouses} \times \frac{307{,}200 \text{ chicken}}{\text{henhouse}} \times \frac{0.000154 \text{ tpy}}{\text{chicken}} = 662.3 \text{ tpy } PM_{10}$$

VOC calculation - Actual
(based on National Air Emissions Monitoring Study, Indiana data)

$$10 \text{ henhouses} \times \frac{307{,}200 \text{ chicken}}{\text{henhouse}} \times \frac{0.0000596 \text{ kg/day}}{\text{chicken}} \times \frac{365 \text{ days}}{\text{year}} \times \frac{0.0011 \text{ ton}}{\text{kg}} = 73.5 \text{ tpy VOC}$$

VOC calculation – Potential to Emit
(based on National Air Emissions Monitoring Study, Indiana data)

$$14 \text{ henhouses} \times \frac{307{,}200 \text{ chicken}}{\text{henhouse}} \times \frac{0.0000596 \text{ kg/day}}{\text{chicken}} \times \frac{365 \text{ days}}{\text{year}} \times \frac{0.0011 \text{ ton}}{\text{kg}} = 102.9 \text{ tpy VOC}$$

These calculations for henhouses demonstrate that the Tonopah Egg Ranch is a major stationary source for PM_{10} (>250 tons in an attainment area) and a major stationary source for VOC emissions (potential to emit >100 tpy in a nonattainment area). Therefore, a new source review is triggered without including other sources of emissions at the facility.

MCAQD Justification #4: Waiting on EPA to issue regulations and/ or guidance on this issue after the conclusion of the monitoring study.

MCAQD referenced EPA's Animal Feeding Operations Consent Agreement and Final Order in Federal Register Vol. 70 page 4958 through 4977 on January 31, 2005 (Federal Register, Vol. 70). The EPA did comment that it would issue regulations and/or guidance on certain issues after the conclusion of the monitoring study. However, the EPA did not require States to wait, which would have been outside the scope of this Federal Register posting, or encourage the States to wait.

The EPA made it clear that it would continue to act:

> *"AFOs that choose not to sign an Air Compliance Agreement will be subject to potential enforcement action by the Federal Government for any CAA, CERCLA, or EPCRA violations, ..."*

> *"To the extent that certain pollutants from AFOs are regulated under the CAA and are emitted in quantities that exceed regulatory thresholds, EPA can and will require AFOs to comply with all applicable CAA requirements, including limiting those emissions where appropriate."*

The EPA also clarified that States do have rules and regulations and encouraged their implementation:

> *"H2S, PM, and VOC are all regulated under the CAA and subject to various requirements under that statute and the implementing Federal and State rules and regulations."*

The EPA reinforced the agencies commitment to the Clean Air Act requirements:

> "As appropriate, nonparticipants, and those who sign up but later drop out due to noncompliance with the Air Compliance Agreement, will be subject to enforcement actions in which significant penalties and injunctive relief could be sought for violations of the CAA, section 103 of CERCLA, and section 304 of EPCRA."

Rather than delivering a message to the States to wait, the EPA encourages States and local agencies to move forward:

> *"EPA recognizes that State and local agencies are undertaking efforts to improve emissions estimation methodologies for AFOs. EPA supports continued action to improve emissions information for all source categories and will use the best information available as we implement o ur programs. EPA also supports State and local efforts to demonstrate improved emissions reduction strategies and recognizes the value of State or local control requirements tailored to the needs of specific geographic areas. For these reasons, nothing in the Air Compliance Agreement will be used to delay or otherwise interfere with the implementation and enforcement of existing State statutes that eliminate exemptions to CAA requirements for agricultural sources of air pollution."*

The EPA has not provided any reason for MCAQD to wait on future guidance or regulations to implement and enforce current Maricopa County Air Quality Rules and the Maricopa County SIP.

Again, as stated plainly by EPA in the text of the Air Compliance Agreement itself…

> *"The Air Compliance Agreement will not affect in any way EPA's ability to respond to an imminent and substantial endangerment to public health, welfare or the environment. Nor will participation in the Agreement provide protection for criminal violations of environmental laws…AFOs that choose not to sign an Air Compliance Agreement will be subject to potential enforcement action by the Federal Government for any CAA, CERCLA, or EPCRA violations, as would any AFO that signs the Agreement but later drops out by not complying with the terms of the Agreement…To the extent that certain pollutants from AFOs are regulated under the CAA and are emitted in quantities that exceed regulatory thresholds, EPA can and will require AFOs to comply with all applicable CAA requirements, including limiting those emissions where appropriate."*

It is clear EPA had no intentions of halting the implementation and enforcement of the CAA for AFOs during its emissions monitoring study per the AFO Consent Agreement and Final Order. Further, EPA was very clear in the Final Order that states should continue to fulfill their responsibilities regulating emissions from AFOs during the study and until future regulations are developed.

MCAQD Justification #5: Absence of regulatory framework

There is no absence of a regulatory framework for MCAQD to consider AFOs as stationary sources and process their permits through Maricopa County's new source review process which has been authorized by the EPA and is implemented through Maricopa County's SIP. If there existed an "absence of regulatory framework" because of agricultural exemptions, the EPA would act to eliminate such as exemption as it did in California.

The EPA has set the example and demonstrated that the Clean Air Act has the regulatory framework needed to perform a New Source Review on AFOs and require major stationary source permits. The examples are:

- Buckeye Egg Farm Notice of Violation/Consent Decree
- EPA Letter to Ohio EPA regarding Hi-Q Egg Products egg-laying facility construction
- Premium Standard Farms Consent Decree

The EPA also stated in the Animal Feeding Operations Consent Agreement and Final Order (Federal Register Vol. 700 page 4958 through 4977 on January 31, 2005): "Moreover, even when EPA has reached a successful resolution of an enforcement case, only the facilities that are the subject of the enforcement action were directly affected." The EPA was using the Clean Air Act requirements to properly regulate and permit AFOs to bring them into compliance.

This same Clean Air Act "regulatory framework" rolls down the MCAQD through an EPA approved SIP and Maricopa County Air Quality Rules. MCAQD has no "absence of regulatory framework" to regulate AFOs and implement a New Source Review process.

MCAQD Justification #6 : The decision as to whether to promulgate regulation for air emissions from AFOs remains with EPA.

See above response to: **MCAQD Justification #4: Waiting on EPA to issue regulations and/ or guidance on this issue after the conclusion of the monitoring study.**

EPA encouraged States and local agencies to improve emissions estimation methodologies, emission reduction strategies, and clearly states that "…nothing in

the Air Compliance Agreement will be used to delay or otherwise interfere with the implementation and enforcement of existing State statutes that eliminate exemptions to CAA requirements for agricultural sources of air pollution." Maricopa County does have a statute that exempts AFOs from Clean Air Act requirements or the EPA would take actions against Arizona as it did California. Therefore, Maricopa County has all the regulations that are needed to appropriately permit agricultural stationary sources through a new source review process of the Maricopa County SIP and Air Quality Rules.

SUMMARY

In conclusion, Maricopa County Air Quality Department has the regulatory framework to issue the Tonopah Egg Ranch an appropriate permit for operating and/or the potential to emit in excess of 100 tons per year emissions of criteria pollutants. Maricopa County Air Quality Department has the necessary framework because the agency has a State Implementation Plan approved by the EPA, which includes a federally enforceable permitting/new source review program.

New Source Review: Particulate Matter

<u>Comment #8</u>: Department failed to consider new source review issues and whether the units should have been included with an earlier permit.

Particulate matter (PM) emissions from the Tonopah Egg Ranch cannot be denied. Studies and research by the EPA and others document particulate matter emission from poultry operations, as well as the health hazards. Most convincing are actual observations. One only has to stand on the 411th Avenue overpass of the I-10 freeway and look towards the Tonopah Egg Ranch. The halo of haze surround the henhouses is obvious, especially in the evening hours. Additionally, the PM emissions are obvious during loading of manure trucks at the "manure barn" located at the east end of the henhouses. (Photo #1, Photo #2)

CLEAN AIR ACT

The Clean Air Act (CAA) required that primary and secondary National Ambient Air Quality Standards (NAAQS) be established "for each air pollutant for which air quality criteria have been issued prior to such date of enactment" (CAA §109.(a)(1)(A)). As a result, National Ambient Air Quality Standards (40 CFR part 50) for pollutants considered harmful to public health and the environment. The primary and secondary particulate matter standards are:

Particulate Matter	Primary/Secondary	Averaging Time	Level	Form
$PM_{2.5}$	Primary	1 year	12.0 µg/m³	Annual mean, averaged over 3 years
$PM_{2.5}$	Secondary	1 year	15.0 µg/m³	Annual mean, averaged over 3 years
$PM_{2.5}$	Primary & Secondary	24 hours	35 µg/m³	98th percentile, averaged over 3 years
PM_{10}	Primary & Secondary	24 hours	150 µg/m³	Not to be exceeded more than once per year on average over 3 years

The NAAQS particulate matter emission limits for PM_{10} and $PM_{2.5}$ are codified in 40 CR § 50.6 and § 50.7, respectively.

MARICOPA COUNTY STATE IMPLEMENTATION PLAN

The Maricopa County State Implementation Plan (MC SIP) contains particulate matter related rules to implement requirements in the Clean Air and Code of Federal Regulations. The relevant rules are:

- Regulation 1, Rule 1 Emissions Regulated: Policy; Legal Authority
- Regulation 1, Rule 2 Definitions

- Regulation 1, Rule 3 Air Pollution Prohibited
- Regulation 2, Rule 20 Permits Required
- Regulation 2, Rule 23 Permit Classes
- Regulation 2, Rule 220 Permits to Operate
- Regulation 2, Rule 31 Emissions of Particulate Matter
- Regulation 3, Rule 310 Fugitive Dust From Dust-Generating Operations
- Regulation 3, Rule 310.01 Fugitive Dust From Non-Traditional Sources of Fugitive Dust
- Regulation 3, Rule 311 Particulate Matter from Process Industries

Note that MC SIP Rule 220 § 202.1 and § 202.2 classifies a major source (major stationary source) as:

> *"Any stationary source located in a nonattainment area which emits, or has a potential emission rate of 100 tons per year or more of any pollutant subject to regulation under the Act; or*
>
> *Any stationary source located in an attainment or unclassified are which emits, or has a potential emission rate of 100 tons per year or more of any pollutant subject to regulation under the Act if the source is classified as a categorical source, or 250 tons per year or more of any pollutant subject to regulations under the Act if the source is not classified source; or..."*

MC SIP Rule 31 Emissions of Particulate Matter § 4. Storage Piles states:

> *"a. No person shall cause, suffer, allow, or per-vent organic or inorganic dust-producing material to be stacked, piled or otherwise stored without taking reasonable precautions such as chemical stabilization, wetting, or covering to prevent excessive amounts of particulate matter from becoming airborne."*

The design of the Tonopah Egg Ranch violates Maricopa County SIP Rule 31 §4 because the building is constructed for the ventilation fans to pull air from the lay house and blow it across the manure piles (organic dust-producing material) and discharge it directly out the building vent (Huston).

MC SIP Regulation 3, Rule 310.01 Fugitive Dust From Non-Traditional Sources of Fugitive Dust has some requirements that should be discussed, starting with definitions.

> Animal waste (§201) is defined as:
>
> > *"Any animal excretions and mixtures containing animal excretions."*
>
> Fugitive Dust (§213) is defined as:
>
> > *"The particulate matter not collected by a capture system, that is entrained in the ambient air and is caused from human and/or natural activities, such as, but not limited to, movement of soil, vehicles, equipment, blasting, and wind. For the purpose of this rule, fugitive dust does not include particulate matter emitted directly from the exhaust of motor vehicles and other internal*

*combustion engines, from portable brazing, soldering, or welding equipment, and from piledrivers, and does not include emissions from process and combustion sources that are subject to other rules in Regulation **111** (Control of Air Contaminants) of these rules."*

Livestock Activities (§216) is defined as:

"Any activity directly related to feeding animals, displaying animals, racing animals, exercising animals, and/or for any other such activity including, but not limited to, livestock arenas, horse arenas, feed lots, and residential activities related to feeding or raising animals."

Non-Traditional Source of Fugitive Dust (§218) is defined as:

"A source of fugitive dust that is located at a source that does not require any permit under these rules. The following non-traditional sources of fugitive dust are subject to the standards and/or requirements described in Rule 310.01: Fugitive Dust from Non-Traditional Sources of Fugitive Dust of these rules:

***218.1** Vehicle use in open areas and vacant lots.*
***218.2** Open areas and vacant lots.*
***218.3** Unpaved parking lots.*
***218.4** Unpaved roadways (including alleys).*
***218.5** Livestock activities.*
***218.6** Erosion-caused deposition of bulk materials onto paved surfaces.*
***218.7** Easements, rights-of-way, and access roads for utilities (electricity, natural gas, oil, water, and gas transmission)."*

Normal Farm Cultural Practice (§219) is defined as:

"All activities by the owner, lessee, agent, independent contractor, and/or supplier conducted on any facility for the production of crops and/or nursery plants. Disturbances of the field surface caused by turning under stalks, tilling, leveling, planting, fertilizing, or harvesting are included in this definition."

By definition, fugitive dust is "particulate matter not collected by a capture system, that is entrained in the ambient air and is caused from human and/or natural activities such as, but not limited to, movement of soil, vehicles, equipment, blasting, and wind." The fugitive dust (particulate matter) being released from a henhouse is **not** fugitive because the particulate matter is being collected by the henhouse walls and ceiling (building) and is being forced discharged by fans, which cannot be considered "entrained in the ambient air".

Relevant examples of livestock activities are in open areas: arenas and feedlots. The examples do not include barns, henhouses, lay houses, manure barns, or other livestock related buildings. Applying the examples provided in the regulation,

fugitive emissions are generated by arenas and feedlots and non-fugitive emissions are generated by henhouses.

Non-traditional sources of fugitive dust include livestock activities, but as discussed above, fugitive emissions are from open areas such as arenas and feedlots, not buildings such as barns and henhouses.

By definition, poultry operations are not Normal Farm Cultural Practices, but activities involving crops and nursery plants are.

MC SIP Rule 310.01 §302.8 has requirements for non-traditional fugitive livestock activities and animal waste hauling. § 302.8.a.(2) has visible emissions requirements, which states:

> *"For corrals, pens, and arenas, the owner and/or operator shall not cause or allow visible fugitive dust emissions to exceed 20% opacity for a period aggregating more than three minutes in any 60-minute period."*

Since henhouses, barns, and other similar buildings are not listed under this livestock activities section of the rule, it reinforces the fact that emissions from henhouses, barns, and other similar buildings are non-fugitive.

Maricopa County Particulate Matter Attainment Area

The Tonopah Egg Ranch located at 41625 W. Indian School Road is in a PM_{10} attainment area. See:

(http://www.arcgis.com/home/webmap/viewer.html?webmap=1d5fe1ed2e4e4bc7ad6e0e87ac9da2fc&extent=-113.4404,32.6917,-110.9122,34.2121)

Tonopah Egg Ranch Particulate Matter Emissions from Henhouses

The permittee did not provide emissions data on the air quality permit application or the application for a minor modification. MCAQD did not require all the particulate matter emissions from permittee as specified by Appendix B of the MCAQD rules. There was no effort to quantify the emissions through engineering calculations, modeling, estimating, or measurements. Lacking this information, other resources such as lawsuits, regulations, and studies are utilized in the following calculations to quantify actual and the potential to emit PM_{10} and $PM_{2.5}$ emissions.

EPA February 23, 2004 News Release

On February 24, 2004, the EPA published a News Release (EPA News Release) titled "Ohio's Largest Egg Producer Agrees to Dramatic Air Pollution Reductions from Three Giant Facilities." The document included specific information about

particulate matter emissions from each of the Buckeye Egg Farm facilities in the following table:

Facility	Particulate Emissions
Croton	550 tpy
Marseilles	700 tpy
Mt. Victory	600 tpy

Calculations

PM_{10} calculation for Tonopah Egg Ranch - Actual

$$\frac{>100 \text{ barns}}{12{,}000{,}000 \text{ hens}} \times \frac{(550 \text{ tpy} + 700 \text{ typ} + 600 \text{ tpy})}{>100 \text{ barns}} = 0.000154 \text{ tpy/hen}$$

$$10 \text{ henhouses} \times \frac{307{,}200 \text{ hen}}{\text{henhouse}} \times \frac{0.000154 \text{ tpy}}{\text{hen}} = 473.1 \text{ tpy } PM_{10}$$

PM_{10} calculation for Tonopah Egg Ranch – Potential to Emit

$$14 \text{ henhouses} \times \frac{307{,}200 \text{ hen}}{\text{henhouse}} \times \frac{0.000154 \text{ tpy}}{\text{hen}} = 662.3 \text{ tpy } PM_{10}$$

By calculating an emission factor for Buckeye Egg Farm particulate matter emissions and applying it to the Tonopah Egg Ranch hen population, it demonstrates that actual and potential to emit particulate emissions would exceed the 100 tpy limit for a major stationary source in a nonattainment area and 250 tpy for a major source in an attainment area.

A Comprehensive Assessment of Aviary Laying-Hen Housing System for Egg Production in the Midwest

This field study was at the Hy-Line Brown facility that involved two aviary henhouses in Iowa (Xin, Hongwei, et al.). The study reported a mean daily emissions of 105 mg/bird/day for PM 10 and 8mg/bird/day for PM 2.5.

Calculations

PM_{10} calculation for Tonopah Egg Ranch - Actual

$$10 \text{ henhouses} \times \frac{307{,}200 \text{ birds}}{\text{henhouse}} \times \frac{105 \text{ mg}}{\text{day-bird}} \times \frac{1{,}000 \text{ g}}{\text{mg}} \times \frac{1.1 \times 10^{-6} \text{ ton}}{\text{g}} \times \frac{356 \text{ day}}{\text{year}} = 129.5 \text{ tpy } PM_{10}$$

$PM_{2.5}$ calculation for Tonopah Egg Ranch - Actual

$$10 \text{ henhouses} \times \frac{307{,}200 \text{ birds}}{\text{henhouse}} \times \frac{8 \text{ mg}}{\text{day-bird}} \times \frac{1{,}000 \text{ g}}{\text{mg}} \times \frac{1.1 \times 10^{-6} \text{ ton}}{\text{g}} \times \frac{356 \text{ day}}{\text{year}} = 9.9 \text{ tpy } PM_{10}$$

PM_{10} calculation for Tonopah Egg Ranch – PTE

$$14 \text{ henhouses} \times \frac{307{,}200 \text{ birds}}{\text{henhouse}} \times \frac{105 \text{ mg}}{\text{day-bird}} \times \frac{1{,}000 \text{ g}}{\text{mg}} \times \frac{1.1\text{x}10^{-6} \text{ ton}}{\text{g}} \times \frac{356 \text{ day}}{\text{year}} = 181.3 \text{ tpy } PM_{10}$$

$PM_{2.5}$ calculation for Tonopah Egg Ranch – PTE

$$14 \text{ henhouses} \times \frac{307{,}200 \text{ birds}}{\text{henhouse}} \times \frac{8 \text{ mg}}{\text{day-bird}} \times \frac{1{,}000 \text{ g}}{\text{mg}} \times \frac{1.1\text{x}10^{-6} \text{ ton}}{\text{g}} \times \frac{356 \text{ day}}{\text{year}} = 13.8 \text{ tpy } PM_{10}$$

Applying the PM_{10} and $PM_{2.5}$ emissions factors from the study to the Tonopah Egg Ranch demonstrates that actual and potential to emit values exceed the 100 tpy limit for a major source, which is subject to new source review permitting.

Air Quality Measurements at a Laying Hen House: Particulate Matter Concentrations and Emissions

A caged-hen layer house was a 250,000-hen, one-year-old, two-story building located at the NW corner of a 14-barn facility in north-central Indiana was used for the study. The measured emissions for PM_{10} was 16+/- 3.4 g/d-AU and $PM_{2.5}$ was 1.1 +/- 0.3 g/d-AU. (Lim, T.T., et al.)

Calculations

PM_{10} calculation for Tonopah Egg Ranch - Actual

$$10 \text{ henhouses} \times \frac{307{,}200 \text{ birds}}{\text{henhouse}} \times \frac{16 \text{ g}}{\text{day-bird}} \times \frac{500 \text{ AU}}{50{,}000 \text{ hens}} \times \frac{1.1\text{x}10^{-6} \text{ ton}}{\text{g}} \times \frac{356 \text{ day}}{\text{year}} = 197.3 \text{ tpy } PM_{10}$$

$PM_{2.5}$ calculation for Tonopah Egg Ranch - Actual

$$10 \text{ henhouses} \times \frac{307{,}200 \text{ birds}}{\text{henhouse}} \times \frac{1.1 \text{ g}}{\text{day-bird}} \times \frac{500 \text{ AU}}{50{,}000 \text{ hens}} \times \frac{1.1\text{x}10^{-6} \text{ ton}}{\text{g}} \times \frac{356 \text{ day}}{\text{year}} = 13.6 \text{ tpy } PM_{10}$$

PM_{10} calculation for Tonopah Egg Ranch - PTE

$$14 \text{ henhouses} \times \frac{307{,}200 \text{ birds}}{\text{henhouse}} \times \frac{16 \text{ g}}{\text{day-bird}} \times \frac{500 \text{ AU}}{50{,}000 \text{ hens}} \times \frac{1.1\text{x}10^{-6} \text{ ton}}{\text{g}} \times \frac{356 \text{ day}}{\text{year}} = 276.3 \text{ tpy } PM_{10}$$

$PM_{2.5}$ calculation for Tonopah Egg Ranch - PTE

$$14 \text{ henhouses} \times \frac{307{,}200 \text{ birds}}{\text{henhouse}} \times \frac{1.1 \text{ g}}{\text{day-bird}} \times \frac{500 \text{ AU}}{50{,}000 \text{ hens}} \times \frac{1.1\text{x}10^{-6} \text{ ton}}{\text{g}} \times \frac{356 \text{ day}}{\text{year}} = 19.0 \text{ tpy } PM_{10}$$

Applying the PM_{10} and $PM_{2.5}$ emissions factors from the study to the Tonopah Egg Ranch demonstrates that actual and potential to emit PM_{10} values exceed the 100 tpy limit for a major stationary source in a nonattainment area and 250 tpy for a major source in an attainment area.

All of the references with the respective emission factors and results when applied to the Tonopah Egg Ranch are summarized in the following table:

Calculated Tonopah Egg Ranch PM Emissions

Reference	Facility or Study	Emissions Factor PM_{10}	Emissions Factor $PM_{2.5}$	Tonopah Egg Ranch Actual PM_{10}	Tonopah Egg Ranch Actual $PM_{2.5}$	Tonopah Egg Ranch PTE PM_{10}	Tonopah Egg Ranch PTE $PM_{2.5}$
EPA February 23, 2004 News Release	Buckeye Egg Farm	0.000154 tpy/hen	-	473.1 tpy	-	662.3 tpy	-
A Comprehensive Assessment of Aviary Laying-Hen Housing System for Egg Production in the Midwest	Hy-Line Brown House 2	105 mg/bird	8 mg/bird	129.5tpy	9.8tpy	181.3tpy	13.8 tpy
Air Quality Measurements at a Laying Hen House: Particulate Matter Concentrations and Emissions	Lim T.T, et al.	16 g/d-AU	1.1 g/d-AU	197.4 tpy	13.6 tpy	276.3 tpy	18.0 tpy

Citations have been provided and calculations performed to support the comment that the Tonopah Egg Ranch henhouses exceed regulatory requirements for a major source for PM10. (See above table.) These emissions calculations do not consider the lay house/manure barn henhouse combination at the Tonopah Egg Ranch.

Facility Particulate Emissions for Tonopah Egg Ranch

Additionally, there are a number of particulate matter sources at the Tonopah Egg Ranch facility and should be included in the total particulate emissions. The particulate matter emissions sources are:

- Lay houses (east end of henhouses)
- Manure barn (west end of henhouses)
- Diesels for emergency diesel generators
- Boilers (2)
- Chicken feed handling
- Manure loading
- Agriculture crop fields
- Dirt roads
- Parking lot

As previously demonstrated the henhouses consisting of lay houses and manure barns, are major sources for PM_{10} emissions. In order to calculate the total

particulate matter emissions from the Tonopah Egg Ranch facility, results of the emissions factors from "A Comprehensive Assessment of Aviary Laying-Hen Housing System for Egg Production in the Midwest" (Xin, Hongwei, et al.) study will be used. Note that this is the lowest emissions factor in all of the references.

MCAQD has calculated the particulate emissions from the diesels used for emergency generators at the henhouses and water pumps. Air quality permit #140062 lists 20 diesels. The Technical Support Document (TSD) (MCAQD, TSD 2/17/16) states: "Emissions calculation is based on each engine operating at no more than 500 hours per any twelve consecutive month period. On the permit application, the Permittee stated that each engine operates no more than 52 hours per year; the operating hours are strictly for weekly testing." The TSD total yearly PM_{10} emissions for one 1,528 HP diesel, one 364 HP diesel, and eighteen 464 diesel engines is 1,977 lbs. per year or 0.99 tons per year. These calculations are based on 500 hours of operation per year, so this is the potential to emit value. The TSD states: "On the permit application, the Permittee stated that each engine operates no more than 52 hours per year; the operating hours are strictly for weekly testing." Therefore, the actual PM_{10} emissions base on 52 hours of operation per year would be 0.10 tpy.

MCAQD has calculated the particulate emissions from the two boilers used at the egg washing processing plant (MC TSD 2/17/16). The TSD states: "Emissions from the natural gas fuel burning equipment are based on the equipment being operated at 24 hours per day and 365 days per year." MCAQD calculated the annual PM_{10} emission from the boilers to be 133 lbs./year or 0.07 tpy. Since the boilers are in continuous operations the actual and PTE emissions are the same.

Chicken feed handling has not been included in the particulate matter calculation for the Tonopah Egg Ranch facility. The original permit application (Hickman, Glen) stated the following for bulk material(s) handled, stored and/or transported: "Chicken Feed – The chicken feed will be delivered from our feed mill at Arlington, Arizona and store [sic] in 16 silos, each silo capacity is 29 tons and the amount per year to feed our chickens will be 87,360 tons." The 16 silos correspond to 8 "barns" on the facility map provided in the application. Calculating the amount of feed for 10 henhouses is 109,200 tons/year and the chicken feed for 14 henhouses is 152,880 tons/year. The picture of the silos in the TSD (MCAQD TSD 10/21/14) does not show a control device and a control device such as a bag house was not listed on the permit application. In order to calculate PM emission, it is assumed that there is a control device for unloading the chicken feed and it has an efficiency of 99.99%. That means during unloading 0.01% of the material becomes particulate emissions, which are 10.92 tpy for 10 henhouses and 15.29 tpy for 14 henhouses. The chicken feed must be transferred from the silos to the henhouse, so it is assumed that the same losses are generated during this transfer. Again, there in no information provided about control devises that may be used. To keep the calculations simple, all losses are assumed to be PM_{10}. If manufacturer's

information was available, the PM_{10} and $PM_{2.5}$ emission losses could be more accurately calculated.

Manure is collected from the poultry operations, dried/composted, loaded into trucks, and hauled to another facility for further processing. SIP Rule 301.01 Fugitive Dust From Non-Traditional Sources of Fugitive Dust regulated livestock activities in §302.8, but does not address the drying, composting and loading of manure. Therefore, these particulate matter-generating activities must be included in the facility's emissions as required by MCAQD Appendix B. According to the facility's Nutrient Management Plan (Huston, Kellie R.) 49,555 tons of manure will be produced annually for poultry operations of 14 henhouses. Using a 10:14 ratio, the annual manure production for 10 henhouses is 35,396 tons. Front-end loaders are used to load the manure into dump trucks. The process does not have any control devices and wetting the manure would be contrary to the effort to dry and compost the manure. The facility's Nutrient Management Plan (Huston, Kellie R.) states:

> "Since the solid and liquid manure from the chickens are comingled, the manure stockpiled in the barns is continually dried through evaporation using a series of large fans. The fans formed a separator wall between the chickens and the barn. The fans operate continually to provide ventilation and airflow within the storage barn to assist in the evaporation process."

The manure loading occurs with dry material and the ventilation fans blowing across the operation. A loss of 0.1% of manure as particulate matter is a very reasonable assumption, which means manure particulate emissions for 10 henhouses are 35.4 tons per year and for 14 henhouses, 49.6 tons per year. Although $PM_{2.5}$ is generated from the poultry operations and is released from the manure operations, to simplify the calculations, all particulate matter is considered to be PM_{10}.

The Tonopah Egg Ranch facility includes agricultural fields, which are contiguous with the poultry operations land. The production of crops is considered as "normal farm cultural practice" and is exempt according to MC SIP Rule 301.01 Fugitive Dust From Non-Traditional Sources of Fugitive Dust § 103.1.

Roads for unpaved access connections and unpaved feed lane access concerning livestock activities are addressed in MC SIP Rule 301.01 Fugitive Dust From Non-Traditional Sources of Fugitive Dust § 302.8.b and should be addressed in the facility's dust control permit.

The unpaved parking lot at the facility is governed by MC SIP Rule 301.01 Fugitive Dust From Non-Traditional Sources of Fugitive Dust § 302.6 and should be addressed in the facility's dust control permit.

The following table summarizes the facility-wide particulate emissions for the Tonopah Egg Ranch.

Summary of Tonopah Egg Ranch Facility Calculated Particulate Matter Emissions

Source	Actual PM_{10} (tpy)	Actual $PM_{2.5}$ (tpy)	PTE PM_{10} (tpy)	PTE $PM_{2.5}$ (tpy)
Lay House & Manure Barn	129.51	9.9	181.31	13.8
Diesels (20)	0.10	-	0.99	-
Boilers (2)	0.07	-	0.07	-
Chicken Feed Handling	10.92	-	15.29	-
Manure Loading	35.40	-	49.6	-
Total	**140.6**	**9.9**	**197.7**	**13.8**

The summary of particulate matter emissions represents all the particulate emissions from the facility as required by MCAQD Appendix B. It is a conservative approach and it is likely that the quantified emissions will be greater than these values. A conservative Animal Unit (AU) ratio is used (500 AU/50,000 chickens) in the calculations. (Federal Register Vol. 66, No. 9) This approach again demonstrates that the PM_{10} emissions from the Tonopah Egg Ranch facility exceed 100 tpy putting it over the threshold for a new source review process for permitting.

MCAQD may argue that certain particulate matter generating activities are addressed as best management practices under an Agriculture General Permit per A.R.S. 49-457 (ARS 49-457). In the Technical Support Document (MCAQD, TSD 2/17/16) for the minor permit modification, MCAQD states: "Per A.R.S. 49-457 the facility is subject to Agricultural Best Management Practices."

However, the Permitting Supervisor, Todd Martin, on April 20, 2016 (Martin, Todd April 20, 2016) states: "The Tonopah facility falls outside these areas and therefore does not appear to qualify for coverage under the Ag BMP." He goes on to say: "So, what does this mean? Answer - Not much. It basically means that nothing applies to dust generating activities at the Tonopah site since Rule 310 specifically exempts "normal farm cultural practices" (and the Tonopah facility doesn't have any process sources that generate dust that would trigger Rule 311 requirements)." ARS 49-457, which is the statute that authorizes Agriculture General Permits and BMPs, does not contain the term "normal farm cultural practices". The more significant meaning is that the Tonopah Egg Ranch is not eligible for an Agriculture General Permit and cannot operate under BMPs, but instead operate under MC SIP and MCAQD rules and regulations.

The Tonopah Egg Ranch does not qualify for an Agriculture General Permit for the following reasons:

- The Tonopah Egg Ranch is not on a PM_{10} nonattainment area, any portion of area A, or any other PM_{10} particulate nonattainment area. Because of the facility's physical location, it is not in a "regulated area" (A.R.S. 49-457.P.6) so activities at the facility are not "regulated agricultural activities" (A.R.S. 49-457.P.5). Best management practices (BMPs) only apply to a regulated agricultural activity (A.R.S. 49-457.P.3). Therefore, the Tonopah Egg Ranch cannot be issued an Agricultural General Permit and operate with BMPs.

- A.R.S. 49-457.P provides many examples of agriculture PM_{10} emissions activities. The listed PM_{10} emission activities from dairy, beef cattle feed lot, poultry facility and swine facility are unpaved access connection; unpaved roads or feed lanes; animal waste handling and transporting; and arenas, corrals, and pens. If MCQAD used ARS 49-457 to exempt the PM_{10} emissions from the poultry operations (henhouses), the EPA would consider it a violation of the Clean Air Act and intervene as the agency did in California with a partial withdrawal of approval of 34 Clean Air Act Part 70 operating permit programs (Federal Register, Vol. 68).

- The Maricopa County SIP includes a Plan for PM10, Agricultural PM-10 General Permit, that was adopted on 5/12/2000 and approved in the Federal Register on 10/11/2001 (Federal Register, Vol. 66 No. 197). Any changes since the EPA's approval date are not valid because they lack EPA approval. Failure to enforce the SIP or Permit Program is enforceable through the Clean Air Act § 113(a)(2).

- A.R.S. 49-457 provides the framework for regulating PM-10 particulate matter under BMPs, not regulating sources, which emit other air pollutants or contaminants.

The Idaho Conservation League (ICL) filed a lawsuit (Idaho Conservation League v. Adrian Boer) against Adrian Boer (K&W Dairy) before it could begin construction for a dairy consisting of 6,600 animal units. The planned dairy consisted of waste lagoons, manure piles, and barns. ICL complained that the dairy "will have the capacity to produce emissions of ammonia, hydrogen sulfide and [particulate matter 10 microns in diameter or smaller] in amounts greater than 100 tons per year."

There were three important results of the motion to dismiss ruling:

1. The requirement that a dairy emitting 100 tpy of PM_{10} had to acquire a Permit-to-Construct was upheld, which supports the new source review process for CAFOs.
2. A settlement was negotiated with the dairy industry and Idaho regulators to develop new air quality permitting rules.

3. The Court, in its overview of the Idaho SIP, provided a legal analysis that dust and animal dander are "regulated air pollutants".

Here's what the Court had to say about the regulation of dust and animal dander:

> *"The exemption sought by Boer covers "agricultural activities" that would not "equal one hundred (100) tons per year of any regulated air pollutant." Rules 220, 222.02(f). The term "regulated pollutant" is defined to include "[1] [a]ny pollutant for which a national air quality standard [NAAQS] has been promulgated [and] ... [2] [a]ny air pollutant listed in Sections 585 [and] 586 ...." Rules 006.82.(b)&(f). ...*
>
> *The IDEQ also asserts that fugitive emissions should not be counted in determining whether the 100 ton limit is met for PTC [Potential To Construct] exemption purposes. The IDEQ notes that ICL's complaint identifies the particulate matter that will be emitted by the dairy as being composed of "dust and animal dander." These types of particulates, the IDEQ argues, are fugitive emissions that cannot be counted in determining if the dairy is emitting 10 tons of a "regulated air pollutant."*
>
> *Once again, the IDEQ's interpretation has no basis in the plain language of the regulations. The definition of "regulated air pollutant," as discussed above, includes certain types of particulate matter cover by NAAQS. The IDEQ cites the Court to no authority holding that dust and animal dander cannot as a matter of law ever fall within the terms of a NAAQS covering particulate matter.[6]*
>
> *The definition of "regulated air pollutant" contains no exclusion for fugitive emission, which are defined as "[t]hose emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening." Rule 006.43. While IDEQ could have drafted regulations excluding fugitive emissions from the definition of "regulated air pollutant," it did no do so, and the Court cannot rewrite the regulations.[7]"*
>
> *[6] The NAAQS for particulate matter set standards for particulate matter with an aerodynamic diameter less than or equal to nominal 10 micrometers, and for particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers. 40 C.F.R. §§ 50.6, 50.7. This is no evidence before the Court that dust and animal dander could not, as a matter of law, ever fall within these NAAQS regulations.*
>
> *[7] IDEQ's complaint that the Court's interpretation will result in a much greater workload for the agency is certainly a legitimate factor to take into account in re-drafting the regulations, but is not a factor for this Court to consider in interpreting the plain language of the regulations.*

Poultry operations generates particulate matter consisting of dust, litter, feed, feed supplements, fecal material (including microorganisms and endotoxins), dander, feathers. (Carter, Shannon E.) The same Court's same argument that "dust and animal dander" are not fugitive can be made for the Tonopah Egg Ranch operations.

MCAQD Rule 100 § 200.104 has the following definition of a "regulated air pollutant":

"Any of the following:

a. Any conventional air pollutant.
b. Nitrogen oxides (NOX) and volatile organic compounds (VOCs).
c. Any air contaminant that is subject to a standard promulgated under Section 111-Standards Of Performance For New Stationary Sources of the Act under Section 112-National Emission Standards For Hazardous Air Pollutants of the Act.
d. Any Class I or II substance listed in Section 602-Stratosphere Ozone Protection; Listing of Class I and Class II Substances of the Act."

The definition of "regulated air pollutant" in MCAQD Rule 100 §§ 200.104 contains no exclusion for fugitive emission, just like the IDEQ did not.

The MCAQD Rule 100 § 200.58 defines fugitive emissions as:

> *"Any emission which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening."*

The MCAQD definition of fugitive emissions is the same as IDEQ's definition of fugitive emissions.

Consequently the ruling by the Court is also applicable to this case: "regulated air pollutants" include fugitive emissions.

As previously discussed, there is a valid, strong argument that emissions from the Tonopah Egg Ranch are not fugitive emissions. However, if the argument prevails that the emissions are fugitive, this court case demonstrates that the fugitive emissions are "regulated air pollutants" according to the local rules and must be included in the facility's emissions for permitting purposes.

SUMMARY

In conclusion, industry research shows that the Tonopah Egg Ranch facility emits and has the potential to emit in excess of 100 tons per year of PM_{10}. As argued in the New Source Review section of this disclosure and this section for Particulate Matter, the PM_{10} and $PM_{2.5}$ emissions from the henhouses (lay house and manure barn) are not fugitive. The lawsuits where the EPA acted and other cited lawsuits also demonstrate that CAFO emissions are not fugitive. With this information and a federally approved SIP, Maricopa County Air Quality Department has the data and ability to pursue the new source review program for proper permitting of the Tonopah Egg Ranch.

New Source Review: Volatile Organic Compounds

<u>Comment #8</u>: Department failed to consider new source review issues and whether the units should have been included with an earlier permit.

Volatile Organic Compound (VOC) emissions from the Tonopah Egg Ranch cannot be denied. Studies and research by the EPA and others document particulate matter emission from poultry operations, as well as the health hazards. VOC generation by Animal Feeding Operations is cited in EPA, agriculture, and scientific studies and research documents. The abstract of "Speciation of Volatile Organic Compounds from Poultry Production"(Trabue, et al.) has this leading sentence: "Volatile organic compounds (VOCs) emitted from poultry production are leading source of air quality problems" The poultry facility VOCs were identified as 4-alcohols, 8-ketones, 5- esters/carbonyls, 9- carboxylic acids, 4- phenols, 8- Nitrogen containing compounds, 4- Sulfur containing compounds, 11-alkanes/alkenes, 3- aromatic compounds, and 3 halogenated compounds.

The EPA had this to say about VOCs in the Animal Feeding Operations Consent Agreement and Final Order (Federal Register, Vol. 70):

> *"AFOs emit several air pollutants, including ammonia (NH3), hydrogen sulfide (H2S), particulate matter (PM), and volatile organic compounds (VOC). ... H2S, PM, and VOC are all regulation under the CAA and subject to various requirements under that stature and the implementing Federal and State rules and regulations."*

<u>CLEAN AIR ACT</u>

The Clean Air Act defines VOC as:

> *"The term "VOC" means volatile organic compound, as defined by the Administrator."*

The Clean Air Act required that primary and secondary National Ambient Air Quality Standards (NAAQS) be established "for each air pollutant for which air quality criteria have been issued prior to such date of enactment" (CAA §109.(a)(1)(A)). As a result, National Ambient Air Quality Standards (40 CFR part 50) for pollutants considered harmful to public health and the environment. The primary and secondary ozone (VOC) standards are:

Pollutant	Primary/Secondary	Averaging Time	Level	Form
Ozone (O_3)	Primary and Secondary	8 hours	0.70 ppm	Annual-fourth highest daily maximum 8-hour concentration, averaged over 3 years

The NAAQS ozone emission limit for ozone is codified in 40 CFR § 50.9, § 50.10, and § 50.15.

The Code of Federal Regulations at 40 CFR §51.100(s) defines VOC:

> *"Volatile organic compounds (VOC) means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions."*

The CAA does not have any exemption for VOCs emitted from agriculture activities or operations. The Animal Feeding Operations Consent Agreement and Final Order (Federal Register, Vol. 70) states:

> *"H2S, PM and VOC are all regulated under the CAA and subject to various requirements under that statute and the implementing Federal and State rules and regulations."*

MARICOPA COUNTY STATE IMPLEMENTATION PLAN

The Maricopa County State Implementation Plan (MC SIP) contains ozone related rules to implement requirements in the Clean Air and Code of Federal Regulations. The relevant rules are:

- Regulation 1, Rule 1 Emissions Regulated: Policy; Legal Authority
- Regulation 1, Rule 2 Definitions
- Regulation 1, Rule 3 Air Pollution Prohibited
- Regulation 2, Rule 20 Permits Required
- Regulation 2, Rule 23 Permit Classes
- Regulation 2, Rule 220 Permits to Operate
- Regulation 3, Rule 32 Odors and Gaseous Emissions
- Regulation 3, Rule 324 Stationary Internal Combustion (IC) Engines
- Regulation 3, Rule 350 Storage of Organic Liquids at Bulk Plants and Terminals

Note that MC SIP Rule 220 § 202 defines a major source (major stationary source) as:

> *202.1 Any stationary source located in a nonattainment area which emits, or has a potential emission rate of 100 tons per year or more of any pollutant subject to regulation under the Act; or*
>
> *202.2 Any stationary source located in an attainment or unclassified area which emits, or has a potential emission rate of 100 tons per year or more of any pollutant subject to regulation under the Act if the source is classified as a categorical source, or 250 tons per year or more of any*

pollutant subject to regulations under the Act if the source is not classified source; or

202.3 Any change to a minor source which would increase the emissions to the qualifying levels specified under Sections 202.1 and 202.2 of this rule.

202.4 A major stationary source that is a major for volatile organic compounds shall be considered major for ozone.

MC SIP Rule 220 §202.4 clarifies that VOC emission are used in lieu of ozone emissions when identifying major stationary source. The definition of Volatile Organic Compounds can be found in MC SIP Rule 34:

> *""Volatile organic compound" means any organic compound ...that, when released into the atmosphere, can remain long enough to participate in photochemical reactions. ..."*

MCAQD Rule 100 § 200.129 also defines a Volatile Organic Compound:

> *"Any organic compound which participates in atmospheric photochemical reactions, except the non-precursor organic compounds."*

As previously argued, VOC emissions are non-fugitive because the poultry operation is a source of VOCs generated inside of a building (henhouse), which vents to the ambient atmosphere.

Maricopa County Volatile Organic Compound Attainment Area

The Tonopah Egg Ranch located at 41625 W. Indian School Road is in a non-attainment area (8-hr standard). See:

http://www.arcgis.com/home/webmap/viewer.html?webmap=1d5fe1ed2e4e4bc7ad6e0e87ac9da2fc&extent=-113.4404,32.6917,-110.9122,34.2121

Tonopah Egg Ranch VOC Emissions from Henhouses

The permittee did not provide emissions data on the air quality permit application or the application for a minor modification. MCAQD did not require the permittee to submit all VOC emissions from all sources as specified by Appendix B of the MCAQD rules. There was no effort to quantify the emissions through engineering calculations, modeling, estimating, or measurements. Lacking this information, other resources such as lawsuits, regulation, and studies are utilized in the following calculations to quantify actual and potential to emit VOC emissions.

Emissions Data From Two Manure-Belt Houses in Indiana

The EPA released a report titled "Emissions Data from Two Manure Belt Layer Houses in Indiana" (Heber, A. J.) on July 31, 2010 as part of the National Air Emissions Monitoring Study. The findings of that report showed that there was 0.0000596 kg/day per bird of VOCs emitted from the Indiana facility, which housed 500,000 birds at the time of the study. The Tonopah Egg Ranch is a manure belt, caged layer henhouse operation.

VOC calculation - Actual
(based on National Air Emissions Monitoring Study, Indiana data)

$$10 \text{ henhouses} \times \frac{307{,}200 \text{ birds}}{\text{henhouse}} \times \frac{0.0000596 \text{ kg/day}}{\text{bird}} \times \frac{365 \text{ days}}{\text{year}} \times \frac{0.0011 \text{ ton}}{\text{kg}} = 73.5 \text{ tpy VOC}$$

VOC calculation – Potential to Emit
(based on National Air Emissions Monitoring Study, Indiana data)

$$14 \text{ henhouses} \times \frac{307{,}200 \text{ birds}}{\text{henhouse}} \times \frac{0.0000596 \text{ kg/day}}{\text{bird}} \times \frac{365 \text{ days}}{\text{year}} \times \frac{0.0011 \text{ ton}}{\text{kg}} = 102.9 \text{ tpy VOC}$$

These calculations for henhouses, which do not include other sources of VOC emissions at the facility, demonstrate that the Tonopah Egg Ranch has the potential to emit more than 100 tpy making the facility a major stationary source for VOC emissions.

San Luis Obispo County Pollution Control District – Agricultural Operation Actual Emission Calculator

San Luis Obispo County Pollution Control District (SLPCAPCD Calculator) developed a calculator to assist the farm community to independently estimate their actual emissions.

VOC calculation - Actual

$$10 \text{ henhouses} \times \frac{307{,}200 \text{ chicken}}{\text{henhouse}} \times \frac{0.192 \text{ lbs}}{\text{chicken-year}} \times \frac{\text{ton}}{2{,}000 \text{ lbs}} = 294.9 \text{ tpy VOC}$$

VOC calculation – Potential to Emit

$$14 \text{ henhouses} \times \frac{307{,}200 \text{ chicken}}{\text{henhouse}} \times \frac{0.192 \text{ lbs}}{\text{chicken-year}} \times \frac{\text{ton}}{2{,}000 \text{ lbs}} = 412.9 \text{ tpy VOC}$$

Utilizing the Confined Animal Facilities VOC emission factor for poultry (laying & broiler chickens), it demonstrates that the Tonopah Egg Ranch exceeds 100 tpy VOC emissions and is a major stationary source.

In summary, calculations utilizing emission factors from the EPA study and a county regulatory agency proves that the Tonopah Egg Ranch exceeds federal and Maricopa County regulatory limits for VOCs and that the facility is classified as a major stationary source. It is important to note that these calculations do not include VOC emissions from diesels for emergency generators or Process wastewater surface impoundment ponds.

Facility Volatile Organic Emissions for Tonopah Egg Ranch

The sources of VOC emissions at the Tonopah Egg Ranch are:

- Chickens in the henhouse (lay house)
- Manure in the henhouse (lay house and manure barn)
- Emergency diesel generators (20)
- Process wastewater surface impoundment ponds (2)
- Boilers, 990,000 Btu/hr (2)
- Diesel storage tank, 10,000 gallons
- Propane tanks (2)

The henhouses, consisting of lay houses where the chickens reside and manure barns where the manure is stored and dried, are sources of VOC emissions. MC SIP Rule 220 & 324 regulates the diesels for emergency generators and MC SIP Rule 220 & 323 regulates boilers. A diesel storage tank is regulated by MC SIP Rule 350 and may be considered an insignificant activity as defined in MCAQD Rule 100 §200.63. (MCAD rescinded Appendix D – List of Insignificant Activities on February 3, 2016.)

MCAQD has calculated the VOC emissions from the diesels used for emergency generators at the henhouses and water pumps. Air quality permit #140062 lists 20 diesels. The Technical Support Document (TSD) (MCAQD, TSD 2/17/16) for the minor permit modification states: "Emissions calculation is based on each engine operating at no more than 500 hours per any twelve consecutive month period. On the permit application, the Permittee stated that each engine operates no more than 52 hours per year; the operating hours are strictly for weekly testing." The TSD total yearly VOC emissions for one 1,528 HP diesel, one 364 HP diesel, and eighteen 464 diesel engines is 11, 304 lbs. per year or 5.65 tons per year. These calculations are based on 500 hours of operation per year, so this is the potential to emit value. The TSD states: On the permit application, the Permittee stated that each engine operates no more than 52 hours per year; the operating hours are strictly for weekly testing." Therefore, the actual VOC emissions base on 52 hours of operation per year would be 0.59 tpy.

The process wastewater surface impoundment ponds receive urine and feces that have been washed from the egg cleaning process. The piping diagrams are not available from the facility and it is possible that other drains are also directed to these ponds, such as drains from henhouses. The impoundments are stationary

sources because they are "structures". The MC SIP Rule 100 §85 defines stationary sources as:

> *"'Stationary Source" means any structure, building, facility, equipment, installation or operation (or combination thereof) which is located on one or more contiguous or adjacent properties and which is owned or operated by the same person (or by persons under common control) and which emits or may emit an air pollutant. Properties shall not be considered contiguous if they are connected only by property upon which is located equipment utilized solely in transmission of electrical energy. "*

The VOC emission from the process wastewater surface impoundment ponds was not initially quantified or evaluated (MCAQD, TSD 10/21/14). However, the MCAQD's Technical Support Documents identified the process wastewater surface impoundment pond as a "structure" (MCAQD, TSD 10/21/14)(MCAQD, TSD 2/17/16). MCQAD TSD (MCAQD, TSD 2/17/16) for the minor permit modification considered three chemicals for egg washing, egg disinfection, and egg washer cleaning, but it did not consider the chicken manure that would be "washed" into the process wastewater surface impoundment ponds. The chemicals that MCAQD considered may not be the entire list of chemicals used at the facility. The ADEQ Determination of Applicability (Huston, K.R.) submittal identified additional chemicals that the facility uses, which contain VOCs.

MCAQD has calculated the VOC emissions from the two boilers used at the egg washing processing plant (MC TSD 2/17/16). The TSD for the minor modification states: "Emissions from the propane fuel burning equipment are based on the equipment being operated at 24 hours per day and 365 days per year." MCAQD calculated the annual VOC emission from the boilers to be 190 lbs./year or 0.1 tpy. Since the boilers are in continuous operations the actual and PTE emissions are the same.

The propane tanks are VOC sources and exist to provide fuel to the hot water boilers. However, they were not submitted as a source on applications (Hickman, Glenn; Ruiz, Francisco G.). The TSD for the draft and final have a Date Prepared of 11/3/2015 (MCAQD TSD Draft)(MCAQD TSD 10/21/14). The draft TSD (MCAQD TSD Draft) was included with the information about a public hearing for the Tonopah Egg Ranch air quality permit minor modification (MCAQD Notice of Public Hearing). The draft TSD did not contain any information about the propane tanks. (MCAQD TSD Draft) Comments were made that the propane tanks missing from the minor permit modification application at a public hearing on November 16, 2015. (Blackson, D.E., April 19, 2016) MCAQD made an inquiry about the propane tanks on May 6, 2016 and the reply was on May 9, 2016. (Phalen, Robert, 5/10/16). The final TSD (MCAQD TSD 2/17/16) completed on February 17, 2016 did include the updated information from May 9, 2016 that propane was the source of fuel for the boilers (emissions were modified) and there were two propane storage tanks at the Tonopah Egg Ranch facility. The final TSD (MCAQD TSD 2/17/16) classified the propane tanks as insignificant per MCAQD Rule 100 § 200.63.g(5).

The following table summarizes the facility-wide VOC emissions for the Tonopah Egg Ranch.

Summary of Tonopah Egg Ranch Facility VOC Emissions

Source	**Actual VOC** (tpy)	**PTE VOC** (tpy)
Lay House & Manure Barn	73.5	102.9
Diesels (20)	0.59	5.65
Process wastewater surface impoundment ponds (2)	Unknown	Unknown
Boilers (2)	0.10	0.10
Diesel storage tank	-	-
Propane tanks (2)	-	-
Total	**74.19**	**108.60**

The summary of VOC emissions represents all the particulate emissions from the facility as required by MCAQD rule Appendix B. It is a conservative approach and it is likely that the quantified emissions will be greater than these values. The approach is conservative because the lower value from the "Emissions Data from Two Manure Belt Layer Houses in Indiana" (Heber, A. J.) is used which does not include VOC emissions from manure drying/composting. This approach demonstrates that the VOC emissions from the Tonopah Egg Ranch exceed 100 tpy for the potential to emit and the facility is a major source and should undergo a new source review to be properly permitted.

SUMMARY

In conclusion, industry and regulatory research shows that the Tonopah Egg Ranch facility emits and has the potential to emit in excess of 100 tons of VOC emissions per year. As argued in the New Source Review section of this disclosure, emissions from the henhouses (lay house and manure barn) are not fugitive. The lawsuits where the EPA acted and other cited lawsuits also demonstrate that CAFO emissions are not fugitive. With this information and a federally approved SIP, Maricopa County Air Quality Department has the information and ability to pursue the new source review program for permitting the Tonopah Egg Ranch.

HENHOUSE VOC EMISSIONS ARE NON-FUGITIVE

Comments #9: Allege that VOC emissions from henhouses are non-fugitive.

The Tonopah Egg Ranch emits pollutants on the National Ambient Air Quality Standards (NAAQS) list and other air contaminants (MCAQD SIP Rule 2 § 7). Poultry operations do emit volatile organic compounds (VOC). (Casey, Kenneth D., et. al)

This section of the Pre-Hearing Disclosure will discuss VOCs, which are precursors to ozone, as non-fugitive emissions from henhouses.

CLEAN AIR ACT

The Tonopah Egg Ranch was constructed after the regulations were published, so it meets the definition of a new source (CAA §112(a)(4)):

> *"The term "new source" means any stationary source, the construction or modification of which is commenced after the publication of regulations (or, if earlier, proposed regulations) prescribing a standard of performance under this section which will be applicable to such source."*

The definition of a stationary source as defined by the CAA [§111(a)] is:

> *The term "stationary source" means any building, structure, facility, or installation which emits or may emit any air pollutant. Nothing in subchapter II of this chapter relating to nonroad engines shall be construed to apply to stationary internal combustion engines.*

"Stationary Source" is also defined in §302(z):

> *"The term "stationary source" means generally any source of an air pollutant except those emissions resulting directly from an internal combustion engine for transportation purposes or from a nonroad engine or nonroad vehicle as defined in section 216."*

The Tonopah Egg Ranch meets the definition of a stationary source because the hens are housed in a building and the poultry activities, which generate air pollutants, are discharged out of an opening in the building.

The Clean Air Act defines "major stationary source" [§ 302(j)] as:

> *"Except as otherwise expressly provided, the terms "major stationary source" and "major emitting facility" mean any stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant (including any major emitting facility or source of fugitive emissions of any such pollutant, as determined by rule by the Administrator)."*

According to 40 C.F.R. § 51.165 (a)(1)(ix), fugitive emissions are "those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening." In the case at hand, the egg laying facility consists of enclosed barns with ventilation systems (i.e., vents), so the emissions cannot be considered "fugitive."

MARICOPA COUNTY STATE IMPLEMENTATION PLAN

Maricopa County must have a permitting program (CAA §110(a)(2)(C) and §502) in order for the EPA to approve a State Implementation Plan (SIP). The permitting program is the process needed to implement the new source review requirements. The following definitions are found in Maricopa County's approved SIP (MC SIP):

Rule #2 § 41 has the following definition of "Fugitive Emissions: means emissions not vented to the atmosphere through a stack or stacks."

Rule #2 § 59 has the following definition of "Non-Point Source": "means a source of air contaminants which lacks identifiable plume or emission point"

Rule #2 §85 has the following definition of "Stationary Source": "means a structure, building, facility, equipment, installation, or operation (or combination thereof) which is located on one or more contiguous or adjacent properties and which is owned or operated by the same person (or by persons under common control) and which emits or may emit an air pollutant." There is no exemption for hen houses, which are stationary sources.

The MC SI P Rule 2 does not have a definition for stack, building, or non-fugitive emissions. However, taking from the definition of stationary source and non-point source, it is reasonable that emissions from a henhouse are fugitive because they are emitted from an identifiable emission point from a building.

LAWSUITS AND AGENCY ACTIONS

A CAFO, Premium Standard Farms, Inc. entered into a Consent Decree (Citizens Legal Environmental Action Network v. Continental Grain Company). On April 26, 2000, the United States issued a Notice of Violation (NOV) to Premium Standard Farms alleging that Premium Standard Farms had not applied for required preconstruction permits or operating permits, in violation of the Missouri State Implementation Plan (SIP) and the Clean Air Act. As part of the Consent Decree (Appendix F), Premium Standard Farms had to conduct air emission measurements on lagoons and production buildings.

The EPA actions against Premium Standard Farms demonstrated that the agency considered the pig "barns" and lagoons to be buildings and structures and that the emissions were non-fugitive.

In 2002 The EPA withdrew California's agriculture permitting exemption on the basis that it "unduly restrict[ed]" enforcement of the CAA and said that CAFOs "plainly fit the definition of stationary source" under the CAA. (Federal Register Vol. 67)

The EPA actions against the State of California demonstrated that the agency considered animal feeding operations, with their barns, buildings, lagoons etc., to be buildings and structures and that the emissions were non-fugitive.

In 2004, Buckeye Egg Farms (United States v. Buckeye Egg Farm L.P. et al.) , the largest egg producer in Ohio, agreed to a Clean Air Act settlement after failing to comply with a regulatory order and failing to obtain required permits for PM emissions.

The EPA actions against Buckeye Egg Farms demonstrated that the agency considered the henhouses to be buildings and that the emissions were non-fugitive.

In a lawsuit involving a dairy (Association of Irritated Residents v. Fred Schakel Dairy), the court stated: "With respect to permitting requirements, the EPA does not recognize an exemption for agriculture sources for purposes of NSR permits and Schakel has not identified such an exemption within the CAA." This implies that the barns are buildings and that the emissions were non-fugitive.

In 2009 Pamela Blakely, Chief of Air Permits Section for EPA Region 5, sent a letter (Blakely) to Michael E. Hopkins, Permitting Assistant Chief of Ohio Environmental Protection Agency, informing him that draft permits for the Hi-Q Egg Products draft permits did not address Clean Air Act requirements. The proposed facility consisted of 15 layer barns designed to accommodate six million birds.

This action supports the allegation that henhouses are buildings and their emissions are non-fugitive.

Fugitive Emissions Discussion

MCAQD Rule 100 §200.58 defines fugitive emission as:

> *"Any emission which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening."*

40 CFR §70.2 (40 CFR) has the same definition for fugitive emissions.

The Maricopa County SIP (Regulation 1 Rule 2 §59) defines Non-point Source as:

""Non-point Source" means a source of air contaminants which lacks identifiable plume or emission point."

The henhouses at the Tonopah Egg Farm are very large buildings. The Lay Buildings/Manure Storage Barns are approximately 60,000 square feet; with a sidewall height of approximately 36 feet and a roof peak of approximately 46 feet (Huston, K .R,). All of the air pollutants are discharged into the ambient atmosphere through the opening in the east end of the henhouse building (aka Lay Building/Manure Storage Barn). The opening in the east end of the building is the "vent" that allows the ventilation fans discharges and air pollutants to escape from the building. Or it could be considered as an "other functionally equivalent opening" which the air emissions pass through. Therefore, the emissions are not fugitive emissions.

Following the Maricopa County SIP definition of non-point source, the functionally equivalent opening in the henhouse is an "identifiable plume or emission point." Therefore, it cannot be a non-point source, meaning that the emissions are non-fugitive in nature.

Fugitive emissions can be found elsewhere on the property. Examples are plowing of the fields or dust from trucks driving along dirt roads. These are truly fugitive emissions that "could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening."

Premium Standard Farms, Inc. is a pork producer with several farms. Each farm consists of multiple sites with each site having its own lagoon system and typically 8 barns. NOVs were issued to Premium Standard Farms, Inc. and a Consent Decree followed (Citizens Legal Environmental Action Network v. Continental Grain Company). The emissions were not considered to be fugitive and Premium Standard Farms was ordered to conduct air emission measurements on lagoons and production buildings. Appendix H of the Consent Decree required an Air Emissions Monitoring Completion Report with a determination if the CAFO was a minor or major source of air pollution.

In the EPA action to withdraw, in part, 34 of California's Clean Air Act title V operating permit programs (Federal Register Vol. 67) for not enforcing their Title V operating permit programs for stationary agricultural sources that are major sources of air pollution (including CAFOs), the EPA stated that "Thus, while we may agree that data regarding emission factors could be better in three years, implementation of the title V agricultural sources must move ahead based on the best data available at this time."

An important Comment/Response in this document is:

"Comment 11: One commenter argues that CAFOs are indirect sources of

emissions, rather than stationary sources, and thus are not subject to title V permitting requirements. The commenter notes that the Clean Air Act defines an indirect source as "a facility, building, structure, installation, real property, road or highway which attracts, or may attract, mobile sources of pollution." Thus, the commenter continues, similar to a highway or a parking lot, a CAFO itself emits nothing; rather, it is the cows that are housed in barns and other structures that create organic emissions, not the facility itself. Furthermore, the commenter argues, the cattle located in a CAFO may be analogized to the automobiles on a highway or in a parking lot; their emissions potentially make the CAFO an indirect source of emissions. Response: EPA disagrees that CAFOs are indirect, as opposed to stationary, sources. The definition of "indirect source" cited by the commenter is located in section 110(a)(5)(C) of the Act and applies only to that paragraph, which addresses State Implementation Plans for indirect source review programs. The appropriate portion of the statute to consult for title V purposes is section 302(z) of the Act, which defines the term "stationary source" as "generally any source of an air pollutant except those emissions resulting directly from an internal combustion engine for transportation purposes or from a nonroad engine or nonroad vehicle." Section 71.2 defines "stationary source" as "any building, structure, facility, or installation that emits or may emit any regulated air pollutant or any pollutant listed under section 112(b) of the Act." CAFOs plainly fit the definition of stationary source under section 302(z) of the CAA and the title V regulations. EPA also disagrees with the commenter's assertion that "a CAFO itself emits nothing." CAFOs directly emit a variety of air pollutants from waste storage lagoons, barns, and other buildings, structures, and facilities where animals are confined. Moreover, we note that cows are not mobile sources regulated under title II of the Act."

In Comment 12, one commenter argued that the emissions from many operational practices and components of dairies are fugitive emissions and not subject to title V and another argued that emissions from certain CAFO sources (e.g. , waste lagoons, hog barns, and poultry houses) are not fugitive. Regarding fugitive and non-fugitive emission sources at CAFOs, the EPA stated that the "EPA is not making such policy decisions in this rulemaking."

In response to Comment 18, EPA says:

> *"EPA agrees that dairy, poultry, and swine CAFOs are all sources of criteria pollutant emissions. The NAS' Interim Report on air emissions from animal feeding operations (AFOs) notes that, "substantial emission of nitrogen, sulfur, carbon, particulate matter, and other substances from AFOs do occur." However, as we stated above, emissions from large animal feeding operations (e.g., dairies, poultry operations, swine facilities) are not as well characterized as are those from diesel agricultural engines. While EPA expects that the state of CAFO emission data will improve in the future, the*

implementation of the title V permitting program for state -exempt major stationary agricultural sources must move ahead based on the best data available at this time."

While the EPA did not set policy on CAFO fugitive emissions, it is very clear that the EPA considers CAFOs to be stationary sources that must be permitted and go through a New Source Review process.

There was no question about emissions from the Buckeye Egg Farms civil action and NOV (United States v. Buckeye Egg Farm L.P. et al.). The air pollutant emissions were **not** considered "fugitive" and the egg farm was required to install and test pollution controls to cut air emissions of particulate matter and ammonia. In the NOV, the EPA stated that Buckeye Egg Farm was operating major sources without Title V permits at two facilities. The EPA said this in the Federal Register (Federal Register Vol. 69):

"...The claims pertain to emissions from Buckeye's barns of particulate matter and ammonia. Preliminary air emission tests required by EPA indicate that air emissions of particulate matter (PM) from Buckeye's facilities are significant—over 550 tons/year (tpy) from the Croton facility, over 700 tpy from the Marseilles facility, and over 600 tpy from the Mt. Victory facility.
Many scientific studies have linked particulate matter to aggravated asthma, coughing, difficult or painful breathing, chronic bronchitis and decreased lung function, among other ailments (see http://www.epa.gov/air/urbanair/pm/index.html.) Buckeye also reported ammonia emissions of over 800 tpy from its Croton facility, over 375 tpy [[Page 11650]] from the Marseilles facility, and nearly 275 tpy from the Mt. Victory facility. Ammonia is a lung irritant."

In the Schakel lawsuit (Association of Irritated Residents v. Fred Schakel Dairy), Schakel constructed a dairy consisting of eight freestall barns, four manure solid separation lagoons, two liquid manure storage lagoons, corrals with flushed alleys, a milking barn and feed storage facilities. The VOC emissions were **not** considered to be "fugitive". In the *Discussion* section of the Order of the Defendant's Motion to Dismiss, the US District Judge cites:

"Schakel's argument that the complaint is insufficient because it fails to allege "that emissions from the cows and the manure take place in the building, structure, facility or installation and somehow connect the ownership or the operation of that to the defendants," is not persuasive. The complaint does allege that emissions fromcows and manure take place in the components of the Dairy. See FAC at ¶ 61 ("Enteric emissions of VOC from cows in freestall barns and the milking barn, as well as emissions from freshly excreted urine and feces, are non-fugitive emissions."); FAC at ¶ 62 ("Emissions from decomposing manure in solid separation lagoons and liquid storage lagoons, as well as solid manure composting piles, are non-fugitive emissions."); see also FAC at ¶¶ 51-53 (describing the barns and corral's "flush system" for manure removal); FAC at ¶ 55 (describing use of manure storage lagoons). ... This ground for dismissal is denied."

It is apparent that the judge agreed that the CAFO emissions were non-fugitive.

EPA Region 5 in 2009 made it very clear in a letter (Blakely) to the Ohio Environmental Protection Agency that a proposed facility of 15 layer barns were considered a stationary source and as a major source or particulate emissions, needed to go through permitting processes under Ohio's State Implementation Plan (SIP) and federally approved Title V program. In other words, the 15-layer barn facility needed to go through a new source review process.

Although the EPA has not established a policy on fugitive vs. non-fugitive emissions, the agency's action make it very clear that a CAFO is stationary source and must go through a new source review process for permitting. Additionally, there are EPA actions where the agency considered CAFOs to have non-fugitive emissions. Those specifics are Consent Decree and lawsuit for 8 barns at the Premium Standard Farms; civil action and NOV for henhouses at the Buckeye Egg Farms; and 15 layer barns at Hi-Q Egg Products in West Mansfield, Ohio (Citizens Legal Environmental Action Network v. Continental Grain Company).

Legally action has also supported that CAFOs do not have fugitive emissions. Specifically, the Schakel lawsuit involving dairy barns, lagoons, corrals, and feed storage (Association of Irritated Residents v. Fred Schakel Dairy).

Another way to look at fugitive emissions vs. non-fugitive emissions is the practical application. If a commercial bread bakery was built in a three-sided building for emissions to escape, would MCAQD grant an exemption to the MCAQD Rule 343 because the emissions were fugitive? Or what if a gin was constructed inside of a 3-sided building and exhausted through the opening, would it be exempt from MCAQD Rule 319? No, the buildings could have been built in a four-sided configuration and appropriately regulated. The same is true with the henhouse. It should not be granted an exception for the configuration of the building. The opening no matter how large it is, is still a "vent" or at the very least a "functionally equivalent opening". The building could have been constructed differently to have a series of smaller vents as with other henhouses, so there wasn't circumvention (MCAQD Rule 100 §104) of normal industry practice. The Tonopah Egg Ranch henhouses were constructed to dry manure with large ventilation fans, which makes it even more non-fugitive, and should be regulated as such. Again, configuration of a building or structure is not justification for an exemption the air pollution that is generated inside of it.

Summary

If a 60,000 ft^2 lay building in combination with a 10,600 ft^2 40 feet high manure building (Huston, K.R., Munck, R.R.) is not a building, than what is it? If an opening in a building is not a vent, than what is it? Aren't emissions passing through an opening (vent) in a building non-fugitive?

The EPA has taken action that demonstrates that animal feeding operations emissions from buildings that house animals and lagoons (structure) that hold animal waste are stationary sources and require permits.

Application Errors & Omissions

<u>Comments #11, #13, #14, & #17</u>: Alleged errors and omissions in the application.

<u>CLEAN AIR ACT</u>

The Clean Air Act addresses permit applications in the Title V – Permits section by mandating a permit program regulations with "[r]equirements for permit applications, including a standard application form and criteria for determining in a timely fashion the completeness of applications." (§502(b)(1)) Also, in Title - Permits of the CAA, §503 establishes permit application requirements for applicable date; compliance plan; timely and complete applications; and copies and availability. The CAA does not define a "complete application". (See § 501).

<u>MARICOPA COUNTY STATE IMPLEMENTATION PLAN</u>

The Maricopa County State Implementation Plan outlines the requirements in Regulation 2 – Permits, Rule 21 Procedures for Obtaining an Installation Permit. The Rule requires a plan layout, raw material information, location of emission points, type and quantity of pollutant emissions, emissions calculations, operating schedule, and project completion date. (MCAQD SIP Rule 21 §A)

MC SIP Reg 2 rule 220 § 401 has the permit application procedures for permit to operate:

> *401* ***APPLICATION PROCEDURES FOR PERMITS TO OPERATE:*** *An application for a Permit to Operate shall be filed in the manner and form prescribed by the Control Officer and shall include such information as required by these regulations.*
>
> *401.1 A separate application is required for each source or facility as required in these Regulations.*
>
> *401.2 Each application shall be signed by the applicant.*
>
> *401.3 Each application for an initial Permit to Operate shall beaccompanied by plans, descriptions, specifications and drawings showing the design of new source, major modification or major alteration. The application shall also include stack data, and the nature and amount of emissions. An application for a renewal of a Permit to Operate shall be accompanied by plans, descriptions, specifications and drawings showing any changes in the source's configuration from that which existed on the date of issuance of the most recent Permit to Operate.*
>
> *401.4 Each application shall include information concerning compliance with any conditions on any prior permit.*

401.5 The Control Officer may waive the submission by the applicant of any of the data information required by this rule if such data are determined to be inappropriate or unnecessary.

MARICOPA COUNTY AIR QUALITY DEPARTMENT RULES

MCAQD Rule 100

MCAQD Rule 100 § 34 defines "complete" as:

> *"**COMPLETE:** In reference to an application for a permit or permit revision, "complete" means that the application contains all the information necessary for processing the application. Designating an application complete for purposes of permit or permit revision, processing does not preclude the Control Officer from requesting nor from accepting any additional information."*

MCAQD Rule 200

MCAQD Rule 200 also defines Standard for Applications in § 309:

***309 STANDARDS FOR APPLICATIONS:** All permit applications shall be filed in the manner and form prescribed by the Control Officer. The application shall contain all the information necessary to enable the Control Officer to make the determination to grant or to deny a permit or permit revision, which shall contain such terms and conditions as the Control Officer deems necessary to assure a source's compliance with the requirements of these rules. The issuance of any permit or permit revision shall not relieve the owner or operator from compliance with any federal laws, Arizona laws, or these rules, nor does any other law, regulation or permit relieve the owner or operator from obtaining a permit or permit revision required under these rules.*

309.1 Insignificant Activities:

***a.** An insignificant activity shall be any activity, process, or emissions unit that meets all of the following:*

(1) Is not subject to a source-specific applicable requirement. Source-specific applicable requirements include requirements for which emissions unit-specific information is needed to determine applicability.

(2) Is either included in the definition of "insignificant activity" in Rule 100 of these rules or is approved by the Control Officer and the Administrator of the Environmental Protection Agency (EPA) as an insignificant activity under this rule.

b. For Title V Permit Applications:

(1) An owner or operator of a Title V source may, in its permit application, list and generally group insignificant activities. The permit application need not provide emissions data regarding insignificant activities, except as necessary to complete the assessment required by Rule 210, Section 301.4 of these rules.

(2) An owner or operator of a Title V source may request approval for the classification of an activity as insignificant by including such request in its permit application, along with justification

that such activity meets the definition of insignificant activity in Rule 100 of these rules.

(3) An owner or operator of a Title V source shall include information in its permit application regarding insignificant activities, if such information is needed to determine: (1) the applicability of or to impose any applicable requirement; (2) whether the source is in compliance with applicable requirements; or (3) the fee amount required under these rules. In such cases, emissions calculations or other necessary information shall be included in the application.

c. For Non-Title V Permit Applications:

(1) An owner or operator of a Non-Title V source is not required to list or describe, in its permit application, insignificant activities, which are defined in Rule 100 of these rules, except as necessary to complete the assessment required by Rule 210, Sections 301.4 of these rules.

(2) If a Non-Title V source's emissions are approaching an applicable requirement, including but not limited to best available control technology (BACT) requirements or major source status, then the owner or operator of such Non-Title V source may be required to include, in its permit application, a description of its insignificant activities and emissions calculations for such insignificant activities.

(3) An owner or operator of a Non-Title V source shall include information in its permit application regarding insignificant activities, if such information is needed to determine: (1) the applicability of or to impose any applicable requirement; (2) whether the source is in compliance with applicable requirements; or (3) the fee amount required under these rules. In such cases, emissions calculations or other necessary information shall be included in the application.

MCAQD Rule 210

MCAQD Rule 210 Title V Permit Provisions has additional application requirements in § 301 Permit Application Processing Procedures:

> ***301.1 Standard Application Form And Required Information:*** *To apply for any permit under this rule, applicants shall complete the "Standard Permit Application Form" and shall supply all information required by the "Filing Instructions" as shown in Appendix B of these rules.*

MCAQD Rule 210 § 301.4 details a list of items that have to be meet for a "complete application".

MCAQD Rule 220

MCAQD Rule 220 Non-Title V Permit Provisions also includes additional application requirements. In § 301.1 of the rule it states:

301.1 Standard Application Form And Required Information: *To apply for a permit under this rule, applicants shall complete a permit application filed in the manner and form prescribed by the Control Officer. The Control Officer, either upon the Control Officer's own initiative or upon the request of a permit applicant, may waive the requirement that specific information or data for a particular source or category of sources be submitted in the Non-Title V permit application. However, the Control Officermust determine that the information or data would be unnecessary to determine all of the following:*

a. The applicable requirements to which the source may be subject;
b. The design and control of the air pollution control equipment such that the source may be expected to operate without emitting or without causing to be emitted air contaminants in violation of these rules;
c. The fees to which the source may be subject under Rule 280-Fees of these rules; and
d. A proposed emission limitation, control, or other requirement that meets the requirements of Section 304 of this rule.

MCAQD Rule 220 § 301.2.b Permit Application and A Compliance Plan has a requirement when a source is not in compliance:

b. A permit application, required by this rule, can include a compliance plan, if applicable, which meets the requirements of Section 303 of this rule when the following circumstances occur:

(1) When a source is not in compliance with these rules but has not been issued a notice of violation, ...

MCAQD Rule 220 § 301.4 specifies a list of items that have to be meet for a "complete application".

MCAQD Rule 220 § 301.5 obligates the applicant to supplement or correct the application:

301.5 Duty To Supplement Or Correct Application: *Any applicant who fai ls to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information. In addition, an applica nt shall provide additional information as necessary to address any requirements that become applicable to the source after the date it filed a complete application but prior to release of a proposed permit.*

Tonopah Egg Ranch Title V Source and Application

The Clean Air act does not provide an exemption for animal feeding operations and the Tonopah Egg Ranch was constructed and put into operation after the EPA's Animal Feeding Operations Consent Agreement and Final Order was put in place. (Federal Register, Vol. 70) Therefore, The Tonopah Egg Ranch is not entitled to

amnesty as a result of participating in the Animal Feeding Operations Consent Agreement and "will be subject to potential enforcement action by the Federal Government for any CAA, CERCLA, or EPCRA violations". (Federal Register, Vol. 70)

MCAQD did not require a Title V application, all emissions to be quantified in the original application for the Tonopah Egg Ranch. (Hickman, Glen) The henhouses were not identified as a source of air pollution and, consequently, an assessment of the applicability of the requirements of a major/minor new source review was triggered (MCAQD rule 210 §301.4.b & c). Also, Permitting Division Manager, Richard Sumner confirmed that MCAQD did not perform any henhouse emissions calculations for particulate matter, VOCs, oxides of nitrogen, and ammonia or VOC or ammonia emissions from the process wastewater surface impoundments. Additionally, the Permitting Division Manager confirmed that MCAQD did not do any measuring, modeling, and/or estimating methods; calculations; and or other methods for determining henhouse and process wastewater surface impoundment ponds emissions. (Robinson, Jacqueline, October 18, 2016)

Information previously discussed from lawsuits, EPA actions, and studies have demonstrated that poultry operations exceed the requirements for a major source and that poultry operations emissions from a henhouse are non-fugitive.

Therefore, the applicant should have completed Appendix B (MCAQD Rule 220 §301.1) and quantify all emissions, including criteria pollutants emitted from the poultry operations (PM_{10}, $PM_{2.5}$, and VOC) and all other emission points, including insignificant activities (MCAQD Rule 200 §309.1.b). Quantifying emissions was necessary to implement the new source review permitting process.

Tonopah Egg Ranch Non-Title V Source Applications

The Tonopah Egg Ranch has been issued Air Quality Permit to Operate and/or Construct Permit No. 140062, which is a Non-Title V air quality permit. During the permitting process, a number of issues have been voiced about the completeness of the original permit and the minor permit modification. (Hickman, Glenn)(Ruiz, Francisco G.) (Ruiz, Francisco G., addendum)

Original Application

The owner/operator of Tonopah Egg Ranch filed an "Application for Non-Title V Air Quality permit, which was received by MCAQD on September 26, 2014.

First, it is questionable if the application satisfied the requirement of the MC SIP that "the application contains all the information necessary for processing the application". (MCAQD Rule 100 § 34) The following information is missing on the original permit application (Hickman, Glenn):

- Missing SIC or NAICS codes

- Missing two Boilers
- Missing two propane tanks
- #20, did not check "A" for fuel burning equipment
- #20, did not check "Y" Other Sources for henhouses and process wastewater surface impoundment ponds
- Did not complete Section A for external fuel burning equipment
- Did not provide a complete Equipment list
- Section Z, did not provide any data on annual emissions

By the omission of information about the boilers, propane tanks, manure loading, process wastewater surface impoundment ponds, and the henhouses, the facility-wide emissions for the Tonopah Egg Ranch could not be determined. According to MCAQD Rule 220 §301.1, the Control Officer has some leeway in requiring specific information or data:

> ***301.1 Standard Application Form And Required Information:*** *To apply for a permit under this rule, applicants shall complete a permit application filed in the manner and form prescribed by the Control Officer. The Control Officer, either upon the Control Officer's own initiative or upon the request of a permit applicant, may waive the requirement that specific information or data for a particular source or category of sources be submitted in the Non-Title V permit application. However, the Control Officer must determine that the information or data would be unnecessary to determine all of the following:*
>
> *a. The applicable requirements to which the source may be subject; ...*

The records provided from public records request No. 79605 (Danley, Rachel) did not reveal any communications between the Control Officer and the applicant to grant omission of any information or data required by the application. Specifically, granting omission of information about the boilers, propane tanks, process wastewater surface impoundment ponds, and the henhouses. The Control Officer determined"[t]he applicable requirements to which the source may be subject"(MCAQD Rule 220 § 301.1(a)) without this information.

Also, there are no records from public records request No. 79605 (Danley, Rachel) that demonstrates that the Control Officer requested information omitted in the application, or that the applicant provided it, as required by MCAQD Rule 220 § 301.5.

According to MCAQD Rule 220 § 301.4.b, an application must satisfy the following to be complete:

> *To be complete, an application for a new permit ora notification of a permit revision shall contain an assessment of the applicability of the requirements of Rule 241-Permits For New Sources And Modifications To Existing Sources of these rules and shall comply with all applicable requirements of Rule 241 -Permits For New Sources And Modifications To Existing Sources of these rules.*

There are no records from public records request No. 79605 (Danley, Rachel) to demonstrate that the applicant included an assessment of the applicability of the requirements of Rule 241. There is not a provision in the rule for the Control Officer to waive this assessment. If for some reason, the Control Officer did waive this assessment, there are no records as demonstrated by public request No. 79605 (Danley, Rachel).

The applicant included the amount of chicken feed in the application (Hickman, Glenn) that would be delivered, stored, transferred to henhouses and MCAQD cited in the Technical Support Document (MCAQD, TSD 10/21/14) that the storage silos were not subject to 40 CFR 60 Subpart DD. MCAQD did not include the particulate matter generated from handling chicken feed in the facility wide emissions for permitting considerations.

Minor Permit Modification Application

The owner/operator of Tonopah Egg Ranch requested a minor permit modification to the facility's Air Quality Permit to Operate and/or Construct Permit No. 140062 and the application was received by MCAQD on November 16, 2015. (Ruiz, Francisco G,) An addendum was also filed. (Ruiz, Francisco G, addendum)

The following issues were identified with the minor permit modification applications (Ruiz, Francisco G, addendum):

- Missing two propane tanks
- #4, Chicken feed not listed on Materials List
- #5, Materials reclaimed or shipped as waste not identified
- Section Z-M, did not provide any data on air pollutant emissions summary
- Violations of Permit Odor Control Standard, non-cited (Wesoloskie, Tina)(MCAQD, Permit No. 140062 Rev. 0.0.1.0)(MC SIP Rule 32) and development of compliance plan (Rule 220 § 301.2.b (1))(Martin, Todd, May 2, 2016)

Again, in the application there was omission of information so the MCAQD SIP requirement for completeness could not be satisfied: "application contains all the information necessary for processing the application".

MCAQD Rule 220 § 301.f allows the Control Officer great discretion in requiring minor permit application information: "The completeness determination shall not apply to revisions processed through the minor permit revision process." Without the requirement for a completeness review, the minor permit modification application can be "incomplete" with the omission of data and information, as with the Tonopah Egg Ranch minor permit modification application (Ruiz, Francisco G,)(Ruiz, Francisco G, addendum).

The minor permit modification and addendum did not identify all of the air pollution sources or quantify all the air pollution emissions at the Tonopah Egg Ranch facility. The missing sources of air pollution sources are: henhouses, process wastewater surface impoundment ponds, chicken feed handling, manure loading, and propane tanks. However, MCAQD did inquire about boilers and propane tanks on May 6, 2016, received the information from the applicant on May 9, 2016 (Phalen, Robert, 5/10/16) and recorded it in the final TSD (MCAQD TSD 2/17/16) for the minor modification dated February 17, 2016 by modifying the emissions calculation and classifying the propane tanks as insignificant. MCAQD evaluated the process wastewater surface impoundment ponds emissions for three chemicals identified on the final TSD (MCAQD TSD 2/17/16), but did not consider feces from egg washing or VOC chemicals that the permittee identified on the ADEQ Determination of Applicability (Huston, K.R.).

SUMMARY

In conclusion, industry and regulatory research shows that the Tonopah Egg Ranch facility emits and has the potential to emit beyond the major source thresholds for PM_{10}, $PM_{2.5}$, and VOCs. As argued in the New Source Review section of this disclosure, emissions from the henhouses (lay house and manure barn) are not fugitive. The lawsuits where the EPA acted and other cited lawsuits also demonstrate that CAFO emissions are not fugitive. When a facility is a Title V facility all of the source emissions at the facility, fugitive and non-fugitive, must be recorded on the permit application. (MCAQD Appendix B)

MCAQD Rule 220 § 301.4.b requires an assessment of the applicability of the requirements of Rule 241, which is a "safety net" when an applicant files for a Non-Title V permit when it may be a Title V major source. There is no evidence that MCAQD Rule 214 applicability assessment was done for the Tonopah Egg Ranch facility.

With this information and a federally approved SIP, Maricopa County Air Quality Department has the duty to pursue the new source review program for proper permitting of the Tonopah Egg Ranch.

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Witnesses

I have not determined that I will call any witnesses at this time.

INTERESTED PARTY INFORMATION

Interested Parties are as follows:

Permittee: Mr. Billy Hickman
Vice President of Operations
Hickman's Family Farms
6515 S. Jackrabbit Trail
Buckeye, AZ 85326

Person(s) who filed a notice of appearance: I am not aware of anyone that has filed a notice of appearance in this action.

Expert Witnesses

I have not been able to confirm at this time that a potential expert witnesses will testify.

LIST OF DOCUMENTS

Documents that support this Pre-hearing Disclosure are listed in the REFERENCE section. Copies can be found in the included electronic file named: Documents.